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NEW ZEALAND

Official
Year-Book.
1898.



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THE
NEW ZEALAND
OFFICIAL YEAR-BOOK
1898

(SEVENTH YEAR OF ISSUE)

PREPARED UNDER INSTRUCTIONS FROM THE
RIGHT HONOURABLE R. J. SEDDON, P.C.

PREMIER.

135021

BY

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WELLINGTON, N.Z.
BY AUTHORITY: JOHN MACKAY, GOVERNMENT PRINTER.
LONDON: EYRE AND SPOTTISWOODE, FLEET STREET, E.C.

1898



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PREFACE.

THE first Parts, Official and Statistical, of the New Zealand Year-book, 1898, now occupy four hundred and twenty pages of the work. The requirement for exhaustive treatment of the subjects dealt with as statistical information necessarily causes the matter to run to a considerable length, and Part II. now consists of twenty sections, of which numbers twelve and thirteen contain fuller particulars as to trade than have been given in any previous issue.

The descriptive articles which form Parts III. and IV. are almost sufficient for another volume by themselves. These parts are often wanted by persons abroad, who do not care for a quantity of statistical matter, and in view of this extra copies of the different sections have been printed in pamphlet form for separate circulation.

It has been necessary to ask some of the Government Departments specially for information required to complete this book, in anticipation of the reports to Parliament, and the figures so given have been used accordingly.

Next year it may be judged best to circulate each section of the statistical information by itself, as a leaflet or pamphlet, instead of attempting to complete the whole Part for presentation to Parliament in the early part of the session, so that the want of some few particulars may not keep back the publication of a large quantity of matter on various subjects.

The Year-book has now reached its seventh year of issue, and it is satisfactory to be able to note that the interest shown in it would seem to have been steadily increasing since 1892.

E. J. VON DADELSZEN.

Registrar-General's Office,

Wellington, 30th September, 1898.

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ADDENDA ET CORRIGENDA.

CONSULS (see p. 24): (1) M. le Comte de Courte, Acting-Consul for France at Wellington, *vice* Viscount De Jouffroy D'Abbas; (2) Ian G. Duncan, Esq., Acting Consul for Portugal at Wellington, *vice* John Duncan, Esq.; (3) Charles W. Rattray, Esq., Acting Vice-Consul for Portugal at Dunedin, *vice* Edmund Quick, Esq.; (4) A. S. Aldrich, Esq., Consul for Japan at Wellington; (5) H. Featherston Johnston, Esq., Vice-Consul for Netherlands at Wellington.

ROLL OF MEMBERS OF THE LEGISLATIVE COUNCIL (see p. 29): Hon. Alfred Lee Smith, Otago, appointed 18th June, 1898; Hon. Jeremiah Matthew Twomey, Canterbury, appointed 18th June, 1898; Hon. Henare Tomoana, Hawke's Bay, appointed 24th June, 1898.

MEMBERS OF HOUSE OF REPRESENTATIVES (see pp. 31, 208): Robert McNab elected for District of Maitāwhiri in place of Hon. G. F. Richardson. (*Gazette* No. 43, 3rd June, 1898.)

CLERK OF HOUSE OF REPRESENTATIVES (see p. 32): Mr. George Friend died 19th July, 1898; succeeded by Henry Otterson from 1st August, 1898. From the same date Alexander John Rutherford was appointed to be Clerk-Assistant; Alexander Francis Lowe to be Second Clerk-Assistant; and Edward William Kane to be Reader.

BRITISH RESIDENT AT RAROTONGA: Lieutenant-Colonel Walter Edward Gudgeon appointed (*Gazette*, 25th August, 1898).

NEW ZEALAND NEWSPAPERS (see p. 81): The *Eketahuna Express and North Wairarapa Courier* is now an evening paper, published on Tuesdays, Thursdays, and Saturdays.

RATING ON UNIMPROVED VALUE (see p. 221): Up to the end of June, 1898, nine local bodies (six boroughs, one county, one town district, and one road district) had notified in the *New Zealand Gazette* that the proposal to levy rates on the unimproved value of land had been carried; and four (two boroughs and two counties), that the proposal had been rejected.

SECURITIES IN THE NAME OF POSTMASTER-GENERAL (see pp. 280-81): Add "Aid to Public Works and Land Settlement Act, 1896, Debentures, 3-per-cent., £25,000 nominal, £25,000 value at cost price"; and add these amounts to the totals.

THE
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PART I.—INTRODUCTORY; OFFICIAL.

NEW ZEALAND.

THE Colony of New Zealand consists of three main islands, with several groups of smaller islands lying at some distance from the principal group. The main islands, known as the North, the Middle, and Stewart Islands, have a coast-line 4,330 miles in length—North Island, 2,200 miles; Middle Island, 2,000 miles; and Stewart Island, 130 miles. The other islands now included within the colony are the Chatham, Auckland, Campbell, Antipodes, Bounty, and Kermadec Islands. A protectorate over the Cook Islands (Hervey Group) is exercised by the Imperial Government, the Governor of New Zealand acting as responsible adviser.

New Zealand is mountainous in many parts, but has, nevertheless, large plains in both North and Middle Islands. In the North Island, which is highly volcanic, is situated the famous Thermal-Springs District, of which a special account will be given. The Middle Island is remarkable for its lofty mountains, with their magnificent glaciers, and for the deep sounds or fiords on the western coast.

New Zealand is firstly a pastoral, and secondly an agricultural country. Sown grasses are grown almost everywhere, the extent of land laid down being more than ten millions of acres. The soil is admirably adapted for receiving these grasses, and, after the bush has been burnt off, is mostly sown over without previous ploughing. In the Middle Island a large area is covered with native grasses, all used for grazing purposes. The large extent of good grazing-land has made the colony a great wool and meat-producing country; and its agricultural capabilities are, speaking generally, very considerable. The abundance of water and the quantity of valuable timber are other natural advantages.

New Zealand is, besides, a mining country. Large deposits of coal are met with, chiefly on the west coast of the Middle Island. Gold, alluvial and in quartz, is found in both islands, the yield having been over fifty-three millions sterling in value to the present time. Full statistical information on this subject is given further on, compiled up to the latest dates.

DISCOVERY AND EARLY SETTLEMENT.

The first authentic account of the discovery of New Zealand is that given by Abel Jansen Tasman, the Dutch navigator. He left Batavia on the 14th August, 1642, in the yacht "Heemskirk," accompanied by the "Zeehaen" (or "Sea-hen") fly-boat. After having visited Mauritius and discovered Tasmania, named by him "Van Diemen's Land," in honour of Anthony van Diemen, Governor of the Dutch possessions in the East Indies, he steered eastward, and on the 13th December of the same year sighted the west coast of the Middle Island of New Zealand, described by him as "a high mountainous country, which is at present marked in the charts as New Zealand."

Tasman, under the belief that the land he saw belonged to a great polar continent, and was part of the country discovered some years before by Schouten and Le Maire, to which the name of Staaten Land had been given, gave the same name of Staaten Land to New Zealand; but within about three months afterwards Schouten's "Staaten Land" was found to be merely an inconsiderable island. Upon this discovery being announced, the country that Tasman had called Staaten Land received again the name of "New Zealand," by which it has ever since been known. Tasman sailed along the coast to a bay, where he anchored. To this he gave the name of Murderers (now Massacre) Bay, on account of an unprovoked attack on a boat's crew by the natives, and the massacre of four white men. Thence he steered along the west coast of the North Island, and gave the name of Cape Maria van Diemen to the north-western extremity thereof. After sighting the islands of the Three Kings he finally departed, not having set foot in the country.

There is no record of any visit to New Zealand after Tasman's departure until the time of Captain Cook, who, after leaving the Society Islands, sailed in search of a southern continent then believed to exist. He sighted land on the 6th October, 1769, at Young Nick's Head, and on the 8th of that month cast anchor in Poverty Bay. After having coasted round the North Island and the Middle and Stewart Islands—which last he mistook for part of the Middle Island—he took his departure from Cape Farewell on the 31st March, 1770, for Australia. He visited New Zealand again in 1773, in 1774, and in 1777.

M. de Surville, a French officer in command of the vessel "Saint Jean Baptiste," while on a voyage of discovery, sighted the north-east coast of New Zealand on the 12th December, 1769, and re-

mained for a short time. A visit was soon after paid by another French officer, M. Marion du Fresne, who arrived on the west coast of the North Island of New Zealand on the 24th March, 1772, but was, on the 12th June following, treacherously murdered at the Bay of Islands by the Natives.

In 1793 the "*Dædalus*," under the command of Lieutenant Hanson, was sent by the Government of New South Wales to New Zealand, and two chiefs were taken thence to Norfolk Island. There was after this an occasional intercourse between the islands of New Zealand and the English settlements in New South Wales.

In 1814 the first missionaries arrived in New Zealand—Messrs. Hall and Kendall—who had been sent as forerunners by Mr. Marsden, chaplain to the New South Wales Government. After a short stay they returned to New South Wales, and on the 19th November of that year again embarked in company with Mr. Marsden, who preached his first sermon in New Zealand on Christmas Day, 1814. He returned to Sydney on the 23rd March, 1815, leaving Messrs. Hall and Kendall, who formed the first mission station at Rangihoua, Bay of Islands, under the auspices of the Church Missionary Society. Six years later, in 1821, the work of evangelization was put on a more durable basis; but the first station of the Wesleyan mission, established by Mr. Leigh and his wife, at the valley of the Kaeo, Whangaroa, was not taken possession of until the 10th June, 1823.

COLONISATION.

The first attempt at colonisation was made in 1825 by a company formed in London. An expedition was sent out under the command of Captain Herd, who bought two islands in the Hauraki Gulf and a strip of land at Hokianga. The attempt, however, was a failure, owing to the savage character of the inhabitants. In consequence of frequent visits of whaling-vessels to the Bay of Islands, a settlement grew up at Kororareka—now called Russell—and in 1833 Mr. Busby was appointed British Resident there. A number of Europeans—generally men of low character—gradually settled in different parts of the country, and married Native women.

In 1838 a colonisation company, known as the New Zealand Company, was formed to establish settlement on systematic principles. A preliminary expedition, under the command of Colonel William Wakefield, was despatched from England on the 12th May, 1839, and arrived in New Zealand in the following August. Having purchased land from the Natives, Colonel Wakefield selected the shore of Port Nicholson, in Cook Strait, as the site of the first settlement. On the 22nd January, 1840, the first body of immigrants arrived, and founded the town of Wellington. About the same time—namely, on the 29th January, 1840—Captain Hobson, R.N., arrived at the Bay of Islands, empowered, with the consent of the

Natives, to proclaim the sovereignty of the Queen over the islands of New Zealand, and to assume the government thereof. A compact called "The Treaty of Waitangi," to which in less than six months five hundred and twelve names were affixed, was entered into, whereby all rights and powers of sovereignty were ceded to the Queen, all territorial rights being secured to the chiefs and their tribes. New Zealand was then constituted a dependency of the Colony of New South Wales, but on the 3rd May, 1841, was proclaimed a separate colony. The seat of Government had been previously established at Waitemata (Auckland), round which a settlement was formed.

The New Zealand Company having decided to form another settlement, to which the name of "Nelson" was to be given, despatched a preliminary expedition from England in April, 1841, for the purpose of selecting a site. The spot chosen was the head of Blind Bay, where a settlement was established. About the same time a number of pioneers arrived in Taranaki, despatched thither by the New Plymouth Company, a colonising society which had been formed in England, and had bought 50,000 acres of land from the New Zealand Company.

The next important event in the progress of colonisation was the arrival at Port Chalmers, in March, 1848, of two emigrant ships sent out by the Otago Association for the foundation of a settlement by persons belonging to or in sympathy with the Free Church of Scotland.

In 1849 the "Canterbury Association for founding a Settlement in New Zealand" was incorporated. On the 16th December, 1850, the first emigrant ship despatched by the association arrived at Port Cooper, and the work of opening up the adjoining country was set about in a systematic fashion, the intention of the promoters being to establish a settlement complete in itself, and composed entirely of members of the then United Church of England and Ireland.

THE MAORIS.

Prior to the colonisation of New Zealand by Europeans, the earliest navigators and explorers found a race of people already inhabiting both islands. Papers written in 1874 by Mr. (afterwards Sir) William Fox, and Sir Donald McLean, then Native Minister, state that at what time the discovery of these islands was made by the Maoris, or from what place they came, are matters of tradition only, and that much has been lost in the obscurity enveloping the history of a people without letters. Nor is there anything on record respecting the origin of the Maori people themselves, beyond the general tradition of the Polynesian race, which seems to show a series of successive migrations from west to east, probably by way of Malaysia to the Pacific. Little more can now be gathered from their traditions than that they were immigrants, and that they probably found inhabitants on the east coast of the

North Island belonging to the same race as themselves—the descendants of a prior migration, whose history is lost. The tradition runs that, generations ago, the Maoris dwelt in a country named Hawaiki, and that one of their chiefs, after a long voyage, fetched the northern island of New Zealand. Returning to his home with a flattering description of the country he had discovered, this chief, it is said, persuaded a number of his kinsfolk and friends, who were much harassed by war, to set out with a fleet of double canoes for the new land. The names of most of the canoes are still remembered, and each tribe agrees in its account of the doings of the people of the principal canoes after their arrival in New Zealand; and from these traditional accounts the descent of the numerous tribes has been traced. Calculations, based on the genealogical staves kept by the *tohungas*, or priests, and on the well-authenticated traditions of the people, indicate that about twenty-one generations have passed since the migration, which may therefore be assumed to have taken place about five hundred and twenty-five years ago. The position of the legendary Hawaiki is unknown, but many places in the South Seas have been thus named in memory of the motherland. The Maoris speak a very pure dialect of the Polynesian language, the common tongue, with more or less variation, in all the Eastern Pacific Islands. When Captain Cook first visited New Zealand he availed himself of the services of a native from Tahiti, whose speech was easily understood by the Maoris. In this way much information respecting the early history of the country and its inhabitants was obtained which could not have otherwise been had.

BOUNDARIES AND AREA.

The Proclamation of Captain Hobson on the 30th January, 1840, gave as the boundaries of the colony the following degrees of latitude and longitude: On the north, $34^{\circ} 30'$ S. lat.; on the south, $47^{\circ} 10'$ S. lat.; on the east, $179^{\circ} 0'$ E. long.; on the west, $166^{\circ} 5'$ E. long. These limits excluded small portions of the extreme north of the North Island and of the extreme south of Stewart Island.

In April, 1842, by Royal Letters Patent, and again by the Imperial Act 26 and 27 Vict., c. 23 (1863), the boundaries of the colony were altered so as to extend from 33° to 53° of south latitude and from 162° of east longitude to 173° of west longitude. By Proclamation bearing date the 21st July, 1887, the Kermadec Islands, lying between the 29th and 32nd degrees of south latitude and the 177th and 180th degrees of west longitude, were declared to be annexed to and to become part of the Colony of New Zealand.

The following now constitute the Colony of New Zealand:—

1. The island commonly known as the North Island, with its adjacent islets, having an aggregate area of 44,468 square miles, or 28,459,580 acres.

2. The island known as the Middle Island, with adjacent islets having an aggregate area of 58,525 square miles, or 37,456,080 acres.

3. Stewart Island, and adjacent islets, having an area of 665 square miles, or 425,390 acres.

4. The Chatham Islands, situated 536 miles eastward of Lyttelton in the Middle Island, with an area of 375 square miles, or 239,920 acres.

5. The Auckland Islands, about 200 miles south of Stewart Island, extending about 30 miles from north to south, and nearly 15 from east to west, the area being 210,650 acres.

6. The Campbell Islands, in latitude $52^{\circ} 33'$ south, and longitude $169^{\circ} 8'$ west, about 30 miles in circumference, with an area of 45,440 acres.

7. The Antipodes Islands, about 458 miles in a south-easterly direction from Port Chalmers, in the Middle Island. These are detached rocky islands, and extend over a distance of between 4 and 5 miles from north to south. Area, 12,960 acres.

8. The Bounty Islands, a small group of islets, thirteen in number, lying north of the Antipodes Islands, and about 415 miles in an east-south-easterly direction from Port Chalmers. Area, 3,300 acres.

9. The Kermadec Islands, a group lying about 614 miles to the north-east of Russell, in the Bay of Islands. Raoul or Sunday Island, the largest of these, is about 20 miles in circuit. The next in size is Macaulay Island, about 3 miles round. Area of the group, 8,208 acres.

The total area of the colony is thus about 104,471 square miles, of which the aggregate area of the outlying groups of islands that are practically useless for settlement amounts to about 438 square miles.

A protectorate is exercised by the Imperial Government over the Cook Islands (or Hervey Group) by Proclamation dated the 27th October, 1888. The British Resident* is appointed on the recommendation of the New Zealand Government. He acts as Government Agent for the colony in all matters of trade.

Area of the Australian Colonies.

The areas of the several Australian Colonies, as given by different authorities, vary considerably. The total area of the Australian Continent is given as 2,944,628 square miles, according to a computation made by the late Surveyor-General of Victoria, Mr. J. A. Skene, from a map of Continental Australia compiled and engraved under his direction; but the following areas are taken from the latest official records of each colony:—

* Frederick J. Moss, Esq., late M.H.R., is now British Resident. His salary is paid by this colony.

					Square Miles.
Queensland	..	..	..	..	668,497
New South Wales	..	..	..	..	310,700
Victoria	..	..	..	..	87,884
South Australia	..	..	..	..	903,690
Western Australia	..	..	..	..	975,920
Total Continent of Australia					2,946,691
Tasmania	..	..	..	..	26,215
New Zealand (including the Chatham and other islands)	..	..	..	..	104,471
Total Australasia					3,077,377

The size of these colonies may be better realised by comparison of their areas with those of European countries. The areas of the following countries—Austria - Hungary, Germany, France, Belgium, Holland, Denmark, Sweden and Norway, Portugal, Spain, Italy (including Sardinia and Sicily), Switzerland, Greece, Roumania, Bulgaria, Servia, Eastern Roumelia, and Turkey in Europe—containing on the whole rather less than 1,600,000 square miles, amount to little more than half the extent of the Australian Continent. If the area of Russia in Europe be added to those of the other countries the total would be about one-seventh larger than the Australian Continent, and about one-twelfth larger than the Australasian Colonies, including New Zealand.

Area of the Colony of New Zealand.

The area of the Colony of New Zealand is about one-seventh less than the area of Great Britain and Ireland, the Middle Island of New Zealand being a little larger than the combined areas of England and Wales.

United Kingdom.					Area in Square Miles.
England and Wales	..	..	..	..	58,311
Scotland	..	..	..	..	30,463
Ireland	..	..	..	..	32,531
Total					121,305
New Zealand.					Area in Square Miles.
North Island	..	..	..	..	44,468
Middle Island	..	..	..	..	58,525
Stewart Island	..	..	..	..	665
Chatham Islands	..	..	..	..	375
Other islands	..	..	..	..	438
Total					104,471

PHYSICAL FEATURES OF THE NORTH ISLAND.

The North Island extends over a little more than seven degrees of latitude—a distance in a direct line from north to south of 430 geographical or 498 statute miles; but, as the northern portion of the colony, which covers more than three degrees of latitude,

trends to the westward, the distance in a straight line from the North Cape to Cape Palliser, the extreme northerly and southerly points of the island, is about 515 statute miles.

This island is, as a whole, hilly, and, in parts, mountainous in character, but there are large areas of plain or comparatively level country that are, or by clearing may be made, available for agricultural purposes. Of these, the principal are the plains in Hawke's Bay on the East Coast, the Wairarapa Plain in the Wellington District, and a strip of country along the West Coast, about 250 miles in length, extending from a point about thirty miles from the City of Wellington to a little north of New Plymouth. The largest plain in the North Island, Kaingaroa, extends from the shore of Lake Taupo in a north-north-easterly direction to the sea-coast in the Bay of Plenty; but a great part of it is covered with pumice-sand, and is unfitted for tillage or pasture. There are several smaller plains and numerous valleys suitable for agriculture. The level or undulating country in this island fit, or capable of being made fit, for agriculture has been roughly estimated at 13,000,000 acres. This includes lands now covered with standing forest, and swamps that can be drained; also large areas of clay-marl and pumice-covered land. The clay-marl in its natural state is cold and uninviting to the farmer, but under proper drainage and cultivation it can be brought to a high state of productiveness. This kind of land is generally neglected at the present time, as settlers prefer soils more rapidly remunerative and less costly to work. The larger portion of the North Island was originally covered with forest. Although the area of bush-land is still very great, yet year by year the amount is being reduced, chiefly to meet the requirements of settlement, the trees being cut down and burnt, and grass-seed sown on the ashes to create pasture. Hilly as the country is, yet from the nature of the climate it is especially suited for the growth of English grasses, which will flourish wherever there is any soil, however steep the land may be; once laid down in grass very little of the land is too poor to supply food for cattle and sheep. The area of land in the North Island deemed purely pastoral or capable of being made so, while too steep for agricultural purposes, is estimated at 14,200,000 acres. In the centre of the island is a lake, about twenty miles across either way, called Taupo. A large area adjacent to the lake is at present worthless pumice-country. The Waikato River, the largest in the North Island, flows out of its north-eastern corner, and runs thence north-westward until it flows into the ocean a little distance south of the Manukau Harbour. This river is navigable for small steamers for about a hundred miles from its mouth. The Maori King-country, occupied by Natives who for several years isolated themselves from Europeans, lies between Lake Taupo and the western coast. The River Thames, or Waihou, having its sources north of Lake Taupo, flows northward into the Firth of Thames. It is navigable for about fifty miles, but only for small steamers. The other navigable

rivers in this island are the Wanganui and Manawatu, which flow towards the south-west into Cook Strait.

The mountains in the North Island are estimated to occupy about one-tenth of the surface, and do not exceed 4,000ft. in height, with the exception of a few volcanic mountains that are more lofty. Of these, the three following are the most important:—

1. The Tongariro Mountain, situated to the southward of Lake Taupo. It consists of a group of distinct volcanic cones, the lava-streams from which have so overlapped in their descent as to form one compact mountain-mass at the base. The highest of these cones is called Ngauruhoe, and attains an elevation of 7,515ft. The craters of Ngauruhoe, the Red Crater (6,140ft.), and Te Mari (4,990ft.) are the three vents from which the latest discharges of lava have taken place, the most recent having occurred in 1868. These craters are still active, steam and vapour issuing from them with considerable force and noise, the vapours, charged with pungent gases and acids, making it dangerous to approach too near the crater-lips.

2. Ruapehu. This mountain lies to the south of Ngauruhoe and Tongariro. It is a volcanic cone in the solfatar stage, and reaches the height of 9,008ft., being in part considerably above the line of perpetual snow. The most remarkable feature of this mountain is the crater-lake on its summit, which is subject to slight and intermittent eruptions, giving rise to vast quantities of steam. Recently—in March, 1895—such an eruption took place, forming a few hot springs on the margin of the lake, and increasing the heat in the lake itself. This lake lies at the bottom of a funnel-shaped crater, the steep sides of which are mantled with ice and snow. The water occupies a circular basin about 500ft. in diameter, some 300ft. below the enclosing peaks, and is quite inaccessible except by the use of ropes. This lake, and the three craters previously mentioned on Tongariro, are all in one straight line, which, if produced, would pass through the boiling springs at Tokaanu on the southern margin of Lake Taupo, the volcanic country north-east of that lake, and White Island, an active volcano in the Bay of Plenty, situated about twenty-seven miles from the mainland.

3. Mount Egmont. This is an extinct volcanic cone, rising to a height of 8,260ft. The upper part is always covered with snow. This mountain is situated close to New Plymouth, and is surrounded by one of the most fertile districts in New Zealand. Rising from the plains in solitary grandeur, it is an object of extreme beauty, the cone being one of the most perfect in the world.

It is estimated that the area of mountain-tops and barren country at too high an altitude for sheep, and therefore worthless for pastoral purposes, amounts, in the North Island, to 300,000 acres.

Without a doubt the hot springs form the most remarkable feature of the North Island. They are found over a large area, extending from Tongariro, south of Lake Taupo, to Ohaeawai, in the extreme north—a distance of some 300 miles; but the principal seat

of hydrothermal action appears to be in the neighbourhood of Lake Rotorua, about forty miles north-north-east from Lake Taupo. By the destruction of the famed Pink and White Terraces and of Lake Rotomahana during the eruption of Mount Tarawera on the 10th June, 1886, the neighbourhood has been deprived of attractions unique in character and of unrivalled beauty; but the natural features of the country—the numerous lakes, geysers, and hot springs, some of which possess remarkable curative properties in certain complaints—are still very attractive to tourists and invalids. The world-wide importance of conserving this region as a sanatorium for all time has been recognised by the Government, and it is now dedicated by Act of Parliament to that purpose.

Notwithstanding the length of coast-line, good harbours in the North Island are not numerous. Those on the west coast north of New Plymouth are bar-harbours, unsuitable for large vessels. The principal harbours are the Waitemata Harbour, on which Auckland is situated—this is rather a deep estuary than a harbour; several excellent havens in the northern peninsula; and Port Nicholson, on the borders of which Wellington is situated. This is a land-locked harbour, about six miles across, having a comparatively narrow but deep entrance from the ocean. The water is deep nearly throughout.

COOK STRAIT.

Cook Strait separates the North and Middle Islands. It is some sixteen miles across at its narrowest part, but in the widest about ninety. The strait is invaluable for the purpose of traffic between different parts of the colony.

PHYSICAL FEATURES OF THE MIDDLE ISLAND.

The extreme length of the Middle Island, from Jackson's Head, in Cook Strait, to Puysegur Point, at the extreme south-west, is about 525 statute miles; the greatest distance across at any point is in Otago (the southernmost) District, about 180 miles.

The Middle Island is intersected along almost its entire length by a range of mountains known as the Southern Alps. Some of the summits reach a height of from 10,000ft. to 12,000ft., Mount Cook, the highest peak, rising to 12,349ft.

In the south, in the neighbourhood of the sounds and Lake Te Anau, there are many magnificent peaks, which, though not of great height, are, owing to their latitude, nearly all crowned with perpetual ice and snow. Further north the mountains increase in height—Mount Earnslaw, at Lake Wakatipu; and Mount Aspiring, which has been aptly termed the New Zealand Matterhorn, nearly 10,000ft. in height, at Lake Wanaka. Northward of this again are Mount Cook (or Aorangi), Mount Sefton, and other magnificent peaks.

For beauty and grandeur of scenery, the Southern Alps of New Zealand may worthily compare with, while in point of variety they are

said actually to surpass, the Alps of Switzerland. In New Zealand few of the mountains have been scaled; many of the peaks and most of the glaciers are as yet unnamed; and there is still, in parts of the Middle Island, a fine field for exploration and discovery—geographical, geological, and botanical. The wonders of the Southern Alps are only beginning to be known; but the more they are known the more they are appreciated. The snow-line in New Zealand being so much lower than in Switzerland, the scenery, though the mountains are not quite so high, is of surpassing grandeur.

There are extensive glaciers on both sides of the range, those on the west being of exceptional beauty, as, from the greater abruptness of the mountain-slopes on that side, they descend to within about 700ft. of the sea-level, and into the midst of the evergreen forest. The largest glaciers on either side of the range are easily accessible.

The following gives the sizes of some of the glaciers on the eastern slope:—

Name.			Area of Glacier.	Length of Glacier.	Greatest Width.	Average Width.
			Acres.	Miles ch.	Miles ch.	Miles ch.
Tasman	..	..	13,664	18 0	2 14	1 15
Murchison	..	..	5,800	10 70	1 5	0 66
Godley	..	..	5,312	8 0	1 55	1 3
Mueller	..	..	3,200	8 0	0 61	0 50
Hooker	..	..	2,416	7 25	0 54	0 41

The Alletsch Glacier in Switzerland, according to Ball, in the "Alpine Guide," has an average width of one mile. It is in length and width inferior to the Tasman Glacier.

Numerous sounds or fiords penetrate the south-western coast. They are long, narrow, and deep (the depth of water at the upper part of Milford Sound is 1,270ft., although at the entrance only 130ft.), surrounded by giant mountains clothed with foliage to the snow-line, with waterfalls, glaciers, and snowfields at every turn. Some of the mountains rise almost precipitously from the water's edge to 5,000ft. and 6,000ft. above the sea. Near Milford, the finest of these sounds, is the great Sutherland Waterfall, 1,904ft. high.

The general surface of the northern portion of the Middle Island, comprising the Provincial Districts of Nelson and Marlborough, is mountainous, but the greater part is suitable for grazing purposes. There are some fine valleys and small plains suitable for agriculture, of which the Wairau Valley or Plain is the largest. Deep sounds, extending for many miles, break the coast-line abutting on Cook Strait. The City of Nelson is situated at the head of Blind Bay, which has a depth inwards from Cook Strait of about forty statute miles.

The Provincial District of Canterbury lies to the south of the

Marlborough District, and on the eastern side of the island. Towards the north the land is undulating; then there is a stretch of almost perfectly level country extending towards the south-west 160 miles, after which, on the south, the country is undulating as far as the borders of the Otago District. On the east a block of hill-country rises abruptly from the plain and extends for some miles seaward. This is Banks Peninsula, containing several good harbours, the principal being Port Cooper, on the north, on which is situated Lyttelton, the chief port of the district: the harbour of Akaroa, one of the finest in the colony, is on the southern coast of this peninsula.

The District of Otago is, on the whole, mountainous, but has many fine plains and valleys suitable for tillage. The mountains, except towards the west coast, are generally destitute of timber, and suitable for grazing sheep. There are goldfields of considerable extent in the interior of this district. The inland lakes are also very remarkable features. Lake Wakatipu extends over fifty-four miles in length, but its greatest width is not more than four miles, and its area only 114 square miles. It is 1,070ft. above sea-level, and has a depth varying from 1,170ft. to 1,296ft. Te Anau Lake is somewhat larger, having an area of 132 square miles. These lakes are bounded on the west by broken, mountainous, and wooded country, extending to the ocean.

The chief harbours in Otago are Port Chalmers, at the head of which Dunedin is situated, and the Bluff Harbour, at the extreme south.

The District of Westland, extending along the west coast of the Middle Island, abreast of Canterbury, is more or less auriferous throughout. The western slopes of the central range of mountains are clothed with forest-trees to the snow-line; but on the eastern side timber is scarce, natural grasses covering the ground.

The rivers in the Middle Island are for the most part mountain torrents, fed by glaciers in the principal mountain ranges. When the snow melts they rise in flood, forming, where not confined by rocky walls, beds of considerable width, generally covered by enormous deposits of shingle. The largest river in the colony as regards volume of water is the Clutha. It is 154 miles in length, but is only navigable for boats or small river-steamers for about thirty miles. The Rivers Buller, Grey, and Hokitika, on the West Coast, are navigable for a short distance from their mouths. They form the only ports in the Westland District. In their unimproved state they admitted, owing to the bars at their mouths, none but vessels of small draught; but, in consequence of the importance of the Grey and Buller Rivers as the sole ports available for the coal-export trade, large harbour-works have been undertaken, resulting in the deepening of the beds of these rivers, and giving a depth of from 18ft. to 26ft. of water on the bars.

The area of level or undulating land in the Middle Island available for agriculture is estimated at about 15,000,000 acres. About

13,000,000 are suitable for pastoral purposes only, or may become so when cleared of forest and sown with grass-seed. The area of barren land and mountain-tops is estimated at about 8,000,000 acres.

FOVEAUX STRAIT.

Foveaux Strait separates the Middle from Stewart Island. This last island has an area of only 425,390 acres. It is mountainous, and for the most part covered with forest.

THE OUTLYING ISLANDS.

The outlying group of the Chatham Islands, 480 statute miles east-south-east from Wellington, and 536 miles eastward of Lyttelton, consists of two principal islands and several unimportant islets. The largest island contains about 222,490 acres, of which an irregularly-shaped lake or lagoon absorbs 45,960 acres. About one quarter of the surface of the land is covered with forest, the rest with fern or grass. The hills nowhere rise to a great height. Pitt Island is the next in size; the area is 15,330 acres. The greater portion of both islands is used for grazing sheep.

The Kermadec group of islands, four in number, is situated between $29^{\circ} 10'$ and $31^{\circ} 30'$ south latitude, and between $177^{\circ} 45'$ and 179° west longitude. They are named Raoul or Sunday Island, Macaulay Island, Curtis Island, and L'Espérance or French Rock. The principal island, Sunday, is 600 miles distant from Auckland. The islands are volcanic, and in two of them signs of activity are still to be seen. The rainfall is plentiful, but not excessive. The climate is mild and equable, and slightly warmer than the north of New Zealand. The following are the areas of the islands and islets of the group: Sunday Island, 7,200 acres; Herald group of islets, 85 acres; Macaulay Island, 764 acres; Curtis Islands, 128 acres and 19 acres; L'Espérance, 12 acres: total, 8,208 acres. Sunday Island is twenty miles in circumference, roughly triangular in shape, and at the highest point 1,723ft. above the sea-level. It is rugged and broken over a very large extent of its surface, and, except in a few places, covered with forest. The soil everywhere on the island is very rich, being formed by the decomposition of a dark-coloured pumiceous tuff and a black andesitic lava, with which is closely mixed a fine vegetable mould. The great luxuriance and richness of the vegetation bear witness to the excellence of the soil, which is everywhere—except where destroyed by eruptions, and on the steep cliffs—the same rich loam. Want of water is one of the drawbacks. Three of the four lakes on the island are fresh, but so difficult of approach as to be practically useless.

The Auckland Islands are about 290 miles south of Bluff Harbour, their position being given on the Admiralty chart as latitude $50^{\circ} 31' 29''$ S., and longitude $166^{\circ} 19' 12''$ E. They have several good harbours. Port Ross, at the north end of the principal island, was described by the eminent French commander, D'Urville, as one of the best harbours of refuge in the known world. At the

southern end of the island there is a through passage extending from the east to the west coast. It has been variously named Adam's Strait and Carnley Harbour, and forms a splendid sheet of water. The largest of the islands is about 27 miles long by about 15 miles broad, and is very mountainous, the highest part being about 2,000ft. above the sea. The west coast is bold and precipitous, but the east coast has several inlets. The wood on the island is, owing to the strong prevailing wind, scrubby in character. The New Zealand Government maintains at this island a dépôt of provisions and clothing for the use of shipwrecked mariners.

CONSTITUTION.

British sovereignty was proclaimed over New Zealand in January, 1840, and the country became a dependency of New South Wales until the 3rd May, 1841, when it was made a separate colony. The seat of Government was at Auckland, and the Executive included the Governor, and three gentlemen holding office as Colonial Secretary, Attorney-General, and Colonial Treasurer.

The successors of these gentlemen, appointed in August, 1841, May, 1842, and January, 1844, respectively, continued in office until the establishment of Responsible Government on the 7th May, 1856. Only one of them—Mr. Swainson, the Attorney-General—sat as a member of the first General Assembly, opened on the 27th May, 1854. During the session of that year there were associated with the permanent members of the Executive Council certain members of the General Assembly. These latter held no portfolios.

The Government of the colony was at first vested in the Governor, who was responsible only to the Crown; but in 1852 an Act granting representative institutions to the colony was passed by the Imperial Legislature. Under it the constitution of a General Assembly for the whole colony was provided for, to consist of a Legislative Council, the members of which were to be nominated by the Governor, and of an elective House of Representatives. The first session of the General Assembly was opened on the 27th May, 1854, but the members of the Executive were not responsible to Parliament. The first Ministers under a system of Responsible Government were appointed on the 18th April, 1856. By the Act of 1852 the colony was divided into six provinces, each to be presided over by an elective Superintendent, and to have an elective Provincial Council, empowered to legislate, except on certain specified subjects. The franchise amounted practically to household suffrage. In each case the election was for four years, but a dissolution of the Provincial Council by the Governor could take place at any time, necessitating a fresh election both of the Council and of the Superintendent. The Superintendent was chosen by the whole body of electors of the province; each member of the Provincial Council by the electors of a district. The Provincial Governments, afterwards increased to nine, remained as integral parts of the Constitution of the colony until the 1st November, 1876, when they

were abolished by an Act of the General Assembly, that body having been vested with the power of altering the Constitution Act. On the same day an Act of the General Assembly which subdivided the colony (exclusive of the areas included within municipalities) into counties, and established a system of local county government, came into force.

GOVERNMENT.

The Governor is appointed by the Queen. His salary is £5,000 a year, and is provided by the colony.

Members of the Legislative Council hold their seats under writs of summons from the Governor. Till the year 1891 the appointments were for life; but in September of that year an Act was passed making appointments after that time tenable for seven years only, though Councillors may be reappointed. In either case seats may be vacated by resignation or extended absence. One member of the Council is an aboriginal native chief.

The members of the House of Representatives are elected for three years from the time of each general election; but at any time a dissolution of Parliament by the Governor may render a general election necessary. Four of the members are representatives of Native constituencies. An Act was passed in 1887 which provided that, on the dissolution of the then General Assembly, the number of members to be thereafter elected to the House of Representatives should be seventy-four in all, of whom four were to be elected, under the provisions of the Maori Representation Acts, as representatives of Maori electors only. For the purposes of European representation the colony is divided into sixty-two electoral districts, four of which—the Cities of Auckland, Wellington, Christchurch, and Dunedin—return each three members, and all the other electorates one each. Members of the House of Representatives are chosen by the votes of the inhabitants in every electoral district appointed for that purpose. By “The Members of the House of Representatives Disqualification Act, 1897,” no person, who, being a bankrupt within the meaning of “The Bankruptcy Act, 1892,” has not obtained an order of discharge under that Act shall be qualified to be nominated as a candidate for election, or to be elected, or to take his seat as a member of the House of Representatives, anything in “The Electoral Act, 1893,” or any other Act to the contrary notwithstanding.

In 1889 an amendment of the Representation Act was passed, which contained a provision prohibiting any elector from giving his vote in respect of more than one electorate at any election. “The Electoral Act, 1893,” extended to women of both races the right to register as electors, and to vote at the elections for members of the House of Representatives. The qualification for registration is the same for both sexes. No person is entitled to be registered on more than one electoral roll within the colony. Women are not qualified to be elected as members of the House of Representatives. The electoral laws are the subject of special comment further on

in this work. Every man registered as an elector, and not coming within the meaning of section 8 of "The Electoral Act, 1893," is qualified to be elected a member of the House of Representatives for any electoral district. For European representation every adult person, if resident one year in the colony and three months in one electoral district, can be registered as an elector. Freehold property of the value of £25 held for six months preceding the day of registration until 1896 entitled a man or woman to register, if not already registered under the residential qualification: But the Amendment Act of 1896 abolished the property qualification (except in case of existing registrations), and residence alone now entitles a man or woman to have his or her name placed upon an electoral roll. For Maori representation every adult Maori resident in any Maori electoral district (of which there are four only in the colony) can vote. Registration is not required in Native districts.

THE SEAT OF GOVERNMENT.

Up to the year 1865, the seat of Government of New Zealand was at Auckland. Several attempts were made by members of Parliament, by motions in the Legislative Council and House of Representatives, to have it removed to some more central place; but it was not until November, 1863, that Mr. Domett (the then ex-Premier) was successful in carrying resolutions in the House of Representatives that steps should be taken for appointing some place in Cook Strait as the permanent seat of Government in the colony. The resolutions adopted were: "(1.) That it has become necessary that the seat of Government in the colony should be transferred to some suitable locality in Cook Strait. (2.) That, in order to promote the accomplishment of this object, it is desirable that the selection of the particular site in Cook Strait should be left to the arbitrament of an impartial tribunal. (3.) That, with this view, a Bill should be introduced to give effect to the above resolutions." On the 25th November an address was presented to the Governor, Sir George Grey, K.C.B., by the Commons of New Zealand, requesting that the Governors of the Colonies of New South Wales, Victoria, and Tasmania, might each be asked to appoint one Commissioner for the purpose of determining the best site in Cook Strait. Accordingly, the Hon. Joseph Docker, M.L.C., New South Wales; the Hon. Sir Francis Murphy, Speaker of the Legislative Council, Victoria; and R. C. Gunn, Esq., Tasmania, were appointed Commissioners.

These gentlemen, having made a personal inspection of all suitable places, arrived at the unanimous decision "that Wellington, in Port Nicholson, was the site upon the shores of Cook Strait which presented the greatest advantages for the administration of the government of the colony."

The seat of Government was, therefore, in accordance with the recommendations of the Commissioners, removed to Wellington in February, 1865.

PUBLIC WORKS.

Nearly all the public works of New Zealand are in the hands of the Government of the colony, and in the early days they simply kept pace with the spread of settlement. In 1870, however, a great impetus was given to the progress of the whole country by the inauguration of the "Public Works and Immigration Policy," which provided for carrying out works in advance of settlement. Railways, roads, and water-races were constructed, and immigration was conducted on a large scale. As a consequence, the population increased from 267,000 in 1871 to 501,000 in 1881, and to 729,056 at the close of the year 1897, exclusive of Maoris.

SUCCESSIVE GOVERNORS.

SUCCESSION OF GOVERNORS OF NEW ZEALAND, AND THE DATES ON WHICH THEY ASSUMED AND RETIRED FROM THE GOVERNMENT.

Captain William Hobson, R.N., from Jan., 1840, to 10 Sept., 1842.

[British sovereignty was proclaimed by Captain Hobson in January, 1840, and New Zealand became a dependency of the Colony of New South Wales until 3rd May, 1841, at which date it was proclaimed a separate colony. From January, 1840, to May, 1841, Captain Hobson was Lieutenant-Governor of New Zealand under Sir George Gipps, Governor of New South Wales, and from May, 1841, Governor of New Zealand; the seat of Government being at Auckland, where he died in September, 1842. From the time of Governor Hobson's death, in September, 1842, until the arrival of Governor Fitzroy, in December, 1843, the Government was carried on by the Colonial Secretary, Lieutenant Shortland.]

Lieutenant Shortland, Administrator, from 10 Sept., 1842, to 26 Dec., 1843.

Captain Robert Fitzroy, R.N., from 26 Dec., 1843, to 17 Nov., 1845.

Captain Grey (became Sir George Grey, K.C.B., in 1848), from 18 Nov., 1845, to 31 Dec., 1853.

[Captain Grey held the commission as Lieutenant-Governor of the colony until the 1st January, 1848, when he was sworn in as Governor-in-Chief over the Islands of New Zealand, and as Governor of the Province of New Ulster and Governor of the Province of New Munster. After the passing of the New Zealand Constitution Act, Sir George Grey was, on the 13th September, 1852, appointed Governor of the colony, the duties of which office he assumed on the 7th March, 1853. In August, 1847, Mr. E. J. Eyre was appointed Lieutenant-Governor of New Munster: he was sworn in, 28th January, 1848. On 3rd January, 1848, Major-General George Dean Pitt was appointed Lieutenant-Governor of New Ulster: he was sworn in, 14th February, 1848; died, 8th January, 1851; and was succeeded as Lieutenant-Governor by Lieutenant-Colonel Wynyard, appointed 14th April, 1851; sworn in, 26th April, 1851. The duties of the Lieutenant-Governor ceased on the assumption by Sir George Grey of the office of Governor, on the 7th March, 1853.]

- Lieutenant-Colonel Robert Henry Wynyard, C.B., Administrator, from 3 Jan., 1854, to 6 Sept., 1855.
- Colonel Thomas Gore Browne, C.B., from 6 Sept., 1855, to 2 Oct., 1861.
- Sir George Grey, K.C.B., Administrator, from 3 Oct., 1861; Governor, from 4 Dec., 1861, to 5 Feb., 1868.
- Sir George Ferguson Bowen, G.C.M.G., from 5 Feb., 1868, to 19 Mar., 1873.
- Sir George Alfred Arney, Chief Justice, Administrator, from 21 Mar. to 14 June, 1873.
- Sir James Fergusson, Baronet, P.C., from 14 June, 1873, to 3 Dec., 1874.
- The Marquis of Normanby, P.C., G.C.M.G., Administrator, from 3 Dec., 1874; Governor, from 9 Jan., 1875, to 21 Feb., 1879.
- James Prendergast, Esquire, Chief Justice, Administrator, from 21 Feb. to 27 Mar., 1879.
- Sir Hercules George Robert Robinson, G.C.M.G., Administrator, from 27 Mar., 1879; Governor, from 17 April, 1879, to 8 Sept., 1880.
- James Prendergast, Esquire, Chief Justice, Administrator, from 9 Sept. to 29 Nov., 1880.
- The Honourable Sir Arthur Hamilton Gordon, G.C.M.G., from 29 Nov., 1880, to 23 June, 1882.
- Sir James Prendergast, Chief Justice, Administrator, from 24 June, 1882, to 20 Jan., 1883.
- Lieutenant-General Sir William Francis Drummond Jervois, G.C.M.G., C.B., from 20 Jan., 1883, to 22 Mar., 1889.
- Sir James Prendergast, Chief Justice, Administrator, from 23 Mar. to 2 May, 1889.
- The Earl of Onslow, G.C.M.G., from 2 May, 1889, to 24 Feb., 1892.
- Sir James Prendergast, Chief Justice, Administrator, from 25 Feb., to 6 June, 1892.
- The Earl of Glasgow, G.C.M.G., from 7 June, 1892, to 6 Feb., 1897.
- Sir James Prendergast, Chief Justice, Administrator, from 8 Feb., 1897, to 9th Aug., 1897.
- The Earl of Ranfurly, K.C.M.G., from 10th Aug., 1897.

SUPREME COURT JUDGES.

SUPREME COURT JUDGES, PAST AND PRESENT, WITH DATES OF APPOINTMENT, AND OF RESIGNATION OR DEATH.

- Sir W. Martin, appointed Chief Justice, 10 Jan., 1842. Resigned, 12 June, 1857.
- H. S. Chapinan, appointed, 26 Dec., 1843. Resigned, 30 July, 1850. Reappointed, 23 Mar., 1864. Resigned, 31 Mar., 1875.
- S. Stephen, appointed, 30 July, 1850. Appointed Acting Chief Justice, 20 Oct., 1855. Died, 13 Jan., 1858.

- Daniel Wakefield, appointed, Oct., 1855. Died, Oct., 1857.
 H. B. Gresson, appointed temporarily, 8 Dec., 1857. Permanently, 1 July, 1862. Resigned, 31 Mar., 1875.
 Sir G. A. Arney, appointed Chief Justice, 1 Mar., 1858. Resigned, 31 Mar., 1875.
 A. J. Johnston, appointed, 2 Nov., 1858. Died, 1 June, 1888.
 C. W. Richmond, appointed, 20 Oct., 1862. Died, 3 Aug., 1895.
 J. S. Moore, appointed temporarily, 15 May, 1866. Relieved, 30 June, 1868.
 C. D. R. Ward, appointed temporarily, 1 Oct., 1868. Relieved, May, 1870. Appointed temporarily, 21 Sept., 1886. Relieved, 12 Feb., 1889.
 Sir J. Prendergast, appointed Chief Justice, 1 April, 1875.
 T. B. Gillies, appointed, 3 Mar., 1875. Died, 26 July, 1889.
 J. S. Williams, appointed, 3 Mar., 1875.
 J. E. Denniston, appointed, 11 Feb., 1889.
 E. T. Conolly, appointed, 19 Aug., 1889.
 Hon. Sir P. A. Buckley, K.C.M.G., appointed, 20 Dec., 1895. Died, 18 May, 1896.
 W. B. Edwards, appointed, 11 July, 1896.
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EXECUTIVE COUNCIL, 1843-56.

MEMBERS OF THE EXECUTIVE COUNCIL OF THE COLONY OF NEW ZEALAND PREVIOUS TO THE ESTABLISHMENT OF RESPONSIBLE GOVERNMENT (NOT INCLUDING THE OFFICERS COMMANDING THE FORCES).

- Willoughby Shortland, Colonial Secretary, from 3 May, 1841, to 31 Dec., 1843; succeeded by Mr. Sinclair.
 Francis Fisher, Attorney-General, from 3 May to 10 Aug., 1841; succeeded by Mr. Swainson.
 George Cooper, Colonial Treasurer, from 3 May, 1841, to 9 May, 1842; succeeded by Mr. Shepherd.
 William Swainson, Attorney-General, from 10 Aug., 1841, to 7 May, 1856.
 Alexander Shepherd, Colonial Treasurer, from 9 May, 1842, to 7 May, 1856.
 Andrew Sinclair, Colonial Secretary, from 6 Jan., 1844, to 7 May, 1856.

[The three gentlemen last mentioned were nominated by Her Majesty as *ex officio* members of the Executive Council. Two of them, the Colonial Secretary and the Colonial Treasurer, were not members of the General Assembly, opened for the first time 27th May, 1854, but all three remained in office until the establishment of Responsible Government.]

- James Edward FitzGerald, M.H.R., without portfolio, from 14 June to 2 Aug., 1854.

Henry Sewell, M.H.R., without portfolio, from 14 June to 2 Aug., 1854.
 Frederick Aloysius Weld, M.H.R., without portfolio, from 14 June to 2 Aug., 1854.
 Francis Dillon Bell, M.L.C., without portfolio, from 30 June to 11 July, 1854.
 Thomas Houghton Bartley, M.L.C., without portfolio, from 14 July to 2 Aug., 1854.
 Thomas Spencer Forsaith, M.H.R., without portfolio, from 31 Aug. to 2 Sept., 1854.
 Edward Jerningham Wakefield, M.H.R., without portfolio, from 31 Aug. to 2 Sept., 1854.
 William Thomas Locke Travers, M.H.R., without portfolio, 31 Aug. to 2 Sept., 1854.
 James Macandrew, M.H.R., without portfolio, from 31 Aug. to 2 Sept., 1854.

PARLIAMENTS.

NUMBER OF PARLIAMENTS SINCE THE CONSTITUTION ACT PASSED FOR CONFERRING REPRESENTATIVE INSTITUTIONS UPON THE COLONY OF NEW ZEALAND, WITH THE DATES OF OPENING AND CLOSING OF SESSIONS AND DATES OF DISSOLUTION.

Parliament.	Date of Opening of Sessions.	Date of Prorogation.
First (dissolved 15th September, 1855)	27 May, 1854 .. 31 August, 1854 .. 8 August, 1855 ..	9 August, 1854. 16 September, 1854. 15 September, 1855.
Second (dissolved 5th November, 1860)	15 April, 1856 .. (No session in 1857) 10 April, 1858 .. (No session in 1859) 30 July, 1860 ..	16 August, 1856. 21 August, 1858. 5 November, 1860.
Third (dissolved 27th January, 1866)	3 June, 1861 .. 7 July, 1862 .. 19 October, 1863 .. 24 November, 1864 .. 26 July, 1865 ..	7 September, 1861. 15 September, 1862. 14 December, 1863. 13 December, 1864. 30 October, 1865.
Fourth (dissolved 30th December, 1870)	30 June, 1866 .. 9 July, 1867 .. 9 July, 1868 .. 1 June, 1869 .. 14 June, 1870 ..	8 October, 1866. 10 October, 1867. 20 October, 1868. 3 September, 1869. 13 September, 1870.

PARLIAMENTS—*continued.*

Parliament.	Date of Opening of Sessions.	Date of Prorogation.
Fifth (dissolved 6th December, 1875)	{ 14 August, 1871 .. 16 July, 1872 .. 15 July, 1873 .. 3 July, 1874 .. 20 July, 1875 ..	16 November, 1871. 25 October, 1872. 3 October, 1873. 31 August, 1874. 21 October, 1875.
Sixth (dissolved 15th August, 1879)	{ 15 June, 1876 .. 19 July, 1877 .. 26 July, 1878 .. 11 July, 1879 ..	31 October, 1876. 10 December, 1877. 2 November, 1878. 11 August, 1879.
Seventh (dissolved 8th November, 1881)	{ 24 September, 1879 .. 28 May, 1880 .. 9 June, 1881 ..	19 December, 1879. 1 September, 1880. 24 September, 1881.
Eighth (dissolved 27th June, 1884)	{ 18 May, 1882 .. 14 June, 1883 .. 5 June, 1884 ..	15 September, 1882. 8 September, 1883. 24 June, 1884.
Ninth (dissolved 15th July, 1887) ..	{ 7 August, 1884 .. 11 June, 1885 .. 13 May, 1886 .. 26 April, 1887 ..	10 November, 1884. 22 September, 1885. 18 August, 1886. 10 July, 1887.
Tenth (dissolved 3rd October, 1890)	{ 6 October, 1887 .. 10 May, 1888 .. 20 June, 1889 .. 19 June, 1890 ..	23 December, 1887. 31 August, 1888. 19 September, 1889. 18 September, 1890.
Eleventh (dissolved 8th November, 1893)	{ 23 January, 1891 .. 11 June, 1891 .. 23 June, 1892 .. 22 June, 1893 ..	31 January, 1891. 5 September, 1891. 12 October, 1892. 7 October, 1893.
Twelfth (dissolved 14th November, 1896)	{ 21 June, 1894 .. 20 June, 1895 .. 11 June, 1896 ..	24 October, 1894. 2 November, 1895. 19 October, 1896.
Thirteenth	{ 7 April, 1897 .. 23 September, 1897 ..	12 April, 1897. 22 December, 1897.

SUCCESSIVE MINISTRIES

SINCE THE ESTABLISHMENT OF RESPONSIBLE GOVERNMENT IN NEW ZEALAND IN 1856.

Name of Ministry.	Assumed Office.	Retired.
1. Bell-Sewell	7 May, 1856 ..	20 May, 1856.
2. Fox	20 May, 1856 ..	2 June, 1856.
3. Stafford	2 June, 1856 ..	12 July, 1861.
4. Fox	12 July, 1861 ..	6 August, 1862.
5. Domett	6 August, 1862 ..	30 October, 1863.
6. Whitaker-Fox	30 October, 1863 ..	24 November, 1864.
7. Weld	24 November, 1864 ..	16 October, 1865.
8. Stafford	16 October, 1865 ..	28 June, 1869.
9. Fox	28 June, 1869 ..	10 September, 1872..
10. Stafford	10 September, 1872 ..	11 October, 1872..
11. Waterhouse	11 October, 1872 ..	3 March, 1873.
12. Fox	3 March, 1873 ..	8 April, 1873.
13. Vogel	8 April, 1873 ..	6 July, 1875.
14. Pollen	6 July, 1875 ..	15 February, 1876.
15. Vogel	15 February, 1876 ..	1 September, 1876..
16. Atkinson	1 September, 1876 ..	13 September, 1876..
17. Atkinson (reconstituted)	13 September, 1876 ..	13 October, 1877.
18. Grey	15 October, 1877 ..	8 October, 1879.
19. Hall	8 October, 1879 ..	21 April, 1882.
20. Whitaker	21 April, 1882 ..	25 September, 1883.
21. Atkinson	25 September, 1883 ..	16 August, 1884.
22. Stout-Vogel	16 August, 1884 ..	28 August, 1884.
23. Atkinson	28 August, 1884 ..	3 September, 1884..
24. Stout-Vogel	3 September, 1884 ..	8 October, 1887.
25. Atkinson	8 October, 1887 ..	24 January, 1891.
26. Ballance	24 January, 1891 ..	1 May, 1893.*
27. Seddon	1 May, 1893.	

* Owing to the death of the Premier, the Hon. J. Ballance, on 27th April, 1893.

PREMIERS OF SUCCESSIVE MINISTRIES.

Name of Premier.	Name of Premier.
Henry Sewell.	Sir Julius Vogel, K.C.M.G.
William Fox.	Harry Albert Atkinson.
Edward William Stafford.	Harry Albert Atkinson (Ministry reconstituted).
William Fox.	Sir George Grey, K.C.B.
Alfred Domett.	Hon. John Hall.
Frederick Whitaker.	Frederick Whitaker, M.L.C.
Frederick Aloysius Weld.	Harry Albert Atkinson.
Edward William Stafford.	Robert Stout.
William Fox.	Harry Albert Atkinson.
Hon. Edward William Stafford.	Sir Robert Stout, K.C.M.G..
George Marsden Waterhouse.	Sir Harry Albert Atkinson, K.C.M.G.
Hon. William Fox.	John Ballance.
Hon. Julius Vogel, C.M.G.	Rt. Hon. Richard John Seddon, P.C.
Daniel Pollen, M.L.C.	

**SPEAKERS OF THE LEGISLATIVE COUNCIL,
WITH DATES OF THEIR APPOINTMENT AND DATES OF RETIREMENT
OR DEATH.**

Name of Speaker.	Date of Appointment.	Date of Retirement or Death.
Hon. William Swainson	16 May, 1854 ..	8 August, 1855.
Hon. Frederick Whitaker	8 August, 1855 ..	12 May, 1856.
Hon. Thomas Houghton Bartley ..	12 May, 1856 ..	1 July, 1868.
Hon. Sir John Larkins Cheese Richard- son, Kt.	1 July, 1868 ..	14 June, 1879.
Hon. Sir William Fitzherbert, K.C.M.G.	14 June, 1879 ..	23 January, 1891.
Hon. Sir Harry Albert Atkinson, K.C.M.G.	23 January, 1891	28 June, 1892.
Hon. Henry John Miller	8 July, 1892.	

**SPEAKERS OF THE HOUSE OF REPRESENTATIVES,
WITH DATES OF THEIR ELECTION AND DATES OF RETIREMENT.**

Name of Speaker.	Date of Election.	Date of Retirement.
Sir Charles Clifford, Bart.	26 May, 1854	
	15 April, 1856 ..	3 June, 1861.
Sir David Monro, Kt. Bach.	9 June, 1861	
	30 June, 1866 ..	13 Sept., 1870.
Sir Francis Dillon Bell, K.C.M.G., C.B.	14 August, 1871 ..	21 October, 1875.
Sir William Fitzherbert, K.C.M.G. ..	15 June, 1876 ..	13 June, 1879.
Sir George Maurice O'Rorke, Kt. Bach.	11 July, 1879	
	24 September, 1879	
	18 May, 1882	
	7 August, 1884	
	6 October, 1887	3 October, 1890.
Hon. Major William Jukes Steward ..	23 January, 1891	8 November, 1893.
Hon. Sir George Maurice O'Rorke, Kt. Bach.	21 June, 1894	
	6 April, 1897.	

FOREIGN CONSULS.

CONSULS OF FOREIGN COUNTRIES RESIDING IN, OR WITH JURISDICTION OVER, NEW ZEALAND, APRIL, 1898.

Country represented.	Office held.	Name.	Place of Residence.
Austria-Hungary	Consul ..	Julius Mergell ..	Sydney.
"	" ..	E. Langguth ..	Auckland.
Belgium	.. Consul-General	Edouard Pollet ..	Melbourne.
"	.. Consul ..	Charles John Johnston	Wellington.
"	.. " ..	(Vacant) ..	Christchurch.
"	.. Acting Consul..	F. Valdemar Johansen	Auckland.
Chili ..	.. Consul-General	William Henry Eldred	Sydney.

FOREIGN CONSULS—*continued.*

Country represented.	Office held.	Name.	Place of Residence.
Denmark ..	Consul (for North Island)	Edward Valdemar Johansen	Auckland.
" ..	Consul (for South Island)	Emil Christian Skog ..	Christchurch.
" ..	Vice-Consul ..	Francis Henry Dillon Bell ..	Wellington.
" ..	" ..	Edmund Quick ..	Dunedin.
France ..	Consul (for New Zealand)	Viscount Alexandre Louis Ferdinand De Jouffroy D'Abbas	Wellington.
" ..	Acting Consul ..	A. A. Stuart-Menteath ..	Wellington.
" ..	Consular Agent	Ambrose Millar ..	Auckland.
" ..	" ..	Percival Clay Neill ..	Dunedin.
" ..	" ..	Hon. Edmund William Parker — Kempermann ..	Christchurch.
German Empire	Consul-General	Bendix Hallenstein ..	Sydney.
" ..	Consul ..	Philip Kippenberger ..	Dunedin.
" ..	" ..	Friedrich August Krull ..	Christchurch.
" ..	" ..	Carl Seegner ..	Wanganui.
" ..	" ..	Eberhard Focke (acting) ..	Auckland.
Hawaiian Islands	Vice-Consul ..	W. E. Dixon ..	Wellington.
" ..	Consul-General (for Australasia)		Sydney.
" ..	Consul ..	James Macfarlane ..	Auckland.
" ..	" ..	William Godfrey Neill ..	Dunedin.
Italy ..	Consul-General (in Australia)	Commendatore P. Corte ..	Melbourne.
" ..	Consular Agent	(Vacant) ..	Christchurch.
" ..	" ..	George Fisher ..	Wellington.
" ..	" ..	Edward Bowes Cargill ..	Dunedin.
" ..	" ..	Geraldo Giuseppe Perotti ..	Greymouth.
" ..	" ..	R. Rose (acting) ..	Auckland.
Netherlands	Consul-General	J. C. T. Reelfs ..	Melbourne.
" ..	Consul ..	Charles John Johnston ..	Wellington.
" ..	Vice-Consul ..	Edward Bowes Cargill ..	Dunedin.
" ..	" ..	Ambrose Millar ..	Auckland.
Portugal	Consul ..	John Duncan ..	Wellington.
" ..	Vice-Consul ..	Henry Rees George ..	Auckland.
" ..	" ..	Edmund Quick ..	Dunedin.
Russia ..	Consul ..	Baron d'Ungern-Sternberg ..	Melbourne.
Spain ..	Vice-Consul ..	Don Francisco Arenas Y. Bonet	Christchurch.
" ..	Acting ..	Thomas Jamieson ..	Christchurch.
Sweden and Norway	Consul ..	Edward Pearce ..	Wellington.
" ..	Vice-Consul ..	Edward Valdemar Johansen	Auckland.
" ..	" ..	Frank Graham ..	Christchurch.
United States ..	Consul-General	Daniel W. Maratta ..	Melbourne.
" ..	Consul (for New Zealand)	Frank Dillingham ..	Auckland.
" ..	Vice-Consul ..	Leonard A. Bachelder ..	Auckland.
" ..	Consular Agent	Robert Pitcaithley ..	Christchurch.
" ..	" ..	Robert Wyles ..	Mongonui.
" ..	" ..	Thomas Cahill, M.D. ..	Wellington.
" ..	" ..	William Godfrey Neill ..	Dunedin.

AGENT-GENERAL FOR NEW ZEALAND IN LONDON.

The Hon. W. P. Reeves, Westminster Chambers, 13, Victoria Street, S.W. Secretary—Walter Kennaway, C.M.G.

AGENTS-GENERAL FOR AUSTRALASIA.

Queensland.—General Sir H. W. Norman, G.C.B., G.C.M.G., Westminster Chambers, 1, Victoria Street, S.W. Secretary—Charles Shortt Dicken, C.M.G.

New South Wales.—Sir Daniel Cooper, Bart., G.C.M.G., Westminster Chambers, 9, Victoria Street, S.W. Secretary—S. Yardley, C.M.G.

Victoria.—Lieut.-General Hon. Sir Andrew Clarke, R.E., G.C.M.G., 15, Victoria Street, S.W. Secretary—S. B. H. Rodgerson.

South Australia.—The Hon. Thomas Playford, Victoria Chambers, 15, Victoria Street, S.W. Secretary—T. F. Wickstead.

Western Australia.—The Hon. Sir Malcolm Fraser, K.C.M.G., 15, Victoria Street, Westminster, S.W. Secretary—Reginald Charles Hare.

Tasmania.—Sir Westby Brook Percival, K.C.M.G., Westminster Chambers, 5, Victoria Street, S.W.

THE COLONIAL OFFICE.

APRIL, 1898.

(DOWNING STREET, S.W., LONDON), WITH DATES OF APPOINTMENT.

Principal Secretary of State for the Colonies—The Right Hon. Joseph Chamberlain, M.P., 28th June, 1895.

Under-Secretaries: Parliamentary—The Right Hon. the Earl of Selborne, 28th June, 1895. Permanent—Edward Wingfield, B.C.L., C.B., 1st March, 1897.

Assistant Under-Secretaries: Frederick Graham, 1st March, 1897; Charles P. Lucas; and H. B. Cox (Legal).

CROWN AGENTS FOR THE COLONIES.

DOWNING STREET, S.W. CITY OFFICE: 1, TOKENHOUSE BUILDINGS, E.C., LONDON.

Crown Agents—Sir Montagu Frederick Ommanney, K.C.M.G., Ernest Edward Blake, and Major M. A. Cameron, R.E.

HONOURS HELD BY COLONISTS.

Bell, Hon. Sir Francis Dillon, Knt. Bach., 1873; K.C.M.G., 1881; C.B., 1886.
 Buller, Sir Walter Lawry, F.R.S., C.M.G., 1875; K.C.M.G., 1886.
 Grace, Hon. Morgan Stanislaus, C.M.G., 1890.
 Grey, Right Hon. Sir George, K.C.B., 1848; P.C., 1894.
 Hall, Hon. Sir John, K.C.M.G., 1882.
 Hector, Sir James, F.R.S., C.M.G., 1875; K.C.M.G., 1887.
 Larnach, Hon. William James Mudie, C.M.G., 1879.
 O'Rorke, Hon. Sir George Maurice, Knt. Bach., 1880.
 Perceval, Sir Westby Brook, K.C.M.G., 1894.
 Prendergast, Sir James, Knt. Bach., 1881.
 Richardson, Hon. Edward, C.M.G., 1879.
 Roberts, John, Esq., C.M.G., 1891.
 Seddon, Right Hon. Richard John, P.C., 1897.
 Stafford, Hon. Sir Edward William, K.C.M.G., 1879; G.C.M.G., 1887.
 Stout, Hon. Sir Robert, K.C.M.G., 1886.
 Vogel, Hon. Sir Julius, C.M.G., 1872; K.C.M.G., 1875.
 Whitmore, Hon. Colonel Sir George Stoddart, C.M.G., 1869; K.C.M.G., 1882.

PERSONS ALLOWED TO RETAIN THE TITLE OF "HONOURABLE"
 WITHIN HER MAJESTY'S DOMINIONS.

By despatch from the Secretary of State for the Colonies, dated Downing Street, 15th June, 1893, His Excellency the Governor was apprised that the title of "Honourable," appertaining to Members of the Executive and Legislative Councils in colonies possessing Responsible Government, whether confined to duration of office or continued for life, is approved by Her Majesty for use and recognition throughout her dominions, either during office or for life, as the case may be.

By further despatch of 10th March, 1894, the Secretary of State announces that he is prepared in future to submit for the approval of the Queen the recommendation of the Governor of any colony having Responsible Government that the President of the Legislative Council or the Speaker of the Legislative Assembly may, on quitting office after three years' service in their respective offices, be permitted to retain the title of "Honourable." This title has since been conferred on Sir F. D. Bell, Sir G. M. O'Rorke, and Major William Jukes Steward.

Besides the Members of the Executive and Legislative Councils, the following ex-Ministers whose names do not appear in the list given above are allowed, as such, to retain the title of "Honourable": Bryce, John, 1884; Dick, Thomas, 1884; Fergus, Thomas, 1891; Haultain, Colonel T. M., 1870; Hislop, Thomas W., 1891; Johnston, Walter W., 1884; Mitchelson, Edwin, 1891; Oliver, Richard, 1884; Reeves, William P., 1896; Reynolds, William H., 1876; Richardson, George F., 1891; Rolleston, William, 1884; Tole, Joseph A., 1888; Ward, Joseph George, 1896.

GOVERNOR OF NEW ZEALAND.

Ranfurly, His Excellency The Right Honourable Sir Uchter John Mark, fifth Earl of (Ireland, 1831), Viscount Northland (1791), Baron Welles (1781), Lord-in-Waiting to Her Majesty (1895-1897), Knight Commander of the Most Distinguished Order of Saint Michael and Saint George; Knight of Justice and Member of the Council of the Order of St. John of Jerusalem; son of third earl, brother of fourth earl; born 14th August, 1856; succeeded 1875; married, 1880, The Honourable Constance Elizabeth, only child of seventh Viscount Charlemont, C.B. Living issue: One son (Viscount Northland), two daughters (Ladies Constance and Eileen Knox). Appointed 6th April, 1897, and assumed office 10th August, 1897, as Governor and Commander-in-Chief in and over Her Majesty's Colony of New Zealand and its Dependencies. Salary, £5,000. Residences: Northland House, Dungannon, Ireland; Government House, Wellington; Government House, Auckland.

Private Secretary and Aide-de-Camp: Dudley Alexander (Captain, "The Prince of Wales's Own"—West Yorkshire—Regiment).

Assistant Private Secretary: The Honourable Charles Edward Hill-Trevor.

Aide-de-Camp: Henry Dudley Ossulston Ward (Lieutenant, Royal Horse Artillery).

Extra Aide-de-Camp: Arthur Charles Wellesley (Lieutenant, 4th Battalion Lincolnshire Regiment).

ADMINISTRATOR OF THE GOVERNMENT.—The Chief Justice holds a dormant commission.

EXECUTIVE COUNCIL.

APRIL, 1898.

His Excellency the GOVERNOR presides.

Rt. Hon. R. J. Seddon, P.C., Premier, Colonial Treasurer, Commissioner of Trade and Customs, Postmaster-General, Electric Telegraph Commissioner, Minister of Labour, and Minister of Native Affairs.

Hon. J. McKenzie, Minister of Lands, Minister of Agriculture, Commissioner of Forests, and Minister in Charge of Advances to Settlers Office.

Hon. A. J. Cadman, Minister for Railways and Minister of Mines.

Hon. J. Carroll, Commissioner of Stamp Duties, Acting Colonial Secretary, and Member of Executive Council representing the Native Race.

Hon. W. C. Walker, Minister of Immigration, Minister of Education, and Minister in Charge of Hospitals and Charitable Aid.

Hon. W. Hall-Jones, Minister for Public Works, Minister of Marine, and Minister in Charge of Printing Office.

Hon. T. Thompson, Minister of Justice, Minister of Defence, and Minister of Industries and Commerce.

Clerk of Executive Council—Alexander James Willis.

THE GENERAL ASSEMBLY.

LEGISLATIVE COUNCIL.

The number of members at present constituting the Legislative Council is forty-five. The number cannot be less than ten, but is otherwise unlimited. Prior to 1891 Councillors summoned by the Governor held their appointments for life; but on the 17th of September of that year an Act was passed giving the Council power to elect its own Speaker for a period of five years, and making future appointments to the Council tenable for seven years only, to be reckoned from the date of the writ of summons of the Councillor's appointment, though every such Councillor may be reappointed. The qualifications are that the person to be appointed be of the full age of twenty-one years, and a subject of Her Majesty, either natural-born or naturalised by or under any Act of the Imperial Parliament or by or under any Act of the General Assembly of New Zealand. All contractors to the public service to an amount of over £50 and Civil servants of the colony are ineligible as Councillors. Payment of Councillors is at the rate of £150 a year, payable monthly. Actual travelling-expenses to and from Wellington are also allowed. A deduction of £1 5s. per sitting day is made in case of an absence, except through illness or other unavoidable cause, exceeding five sitting days in any one session. Under "The Legislative Council Act, 1891," a seat is vacated by any member of the Council—(1), If he takes any oath or makes any declaration or acknowledgment of allegiance, obedience, or adherence to any foreign Prince or Power; or (2), if he does, or concurs in, or adopts any act whereby he may become a subject or citizen of any foreign State or Power, or is entitled to the rights, privileges, or immunities of a subject of any foreign State or Power; or (3), if he is a bankrupt, or compounds with his creditors under any Act for the time being in force; or (4), if he is a public defaulter, or is attainted of treason, or is convicted of felony or any infamous crime; or (5), if he resigns his seat by writing under his hand addressed to and accepted by the Governor; or (6), if for more than one whole session of the General Assembly he fails, without permission of the Governor notified to the Council, to give his attendance in the Council. By the Standing Orders of the Council, the presence of one-fourth of the members of the Council, exclusive of those who have leave of absence, is necessary to constitute a meeting for the exercise of its powers. This rule, however, may be altered from time to time by the Council. The ordinary sitting-days are Tuesdays, Wednesdays, Thursdays, and Fridays, from 2.30 p.m. to 5 p.m., resuming again at 7.30 when necessary.

ROLL OF MEMBERS OF THE HONOURABLE THE LEGISLATIVE COUNCIL OF NEW ZEALAND, 1898.

Speaker—The Hon. HENRY JOHN MILLER.

Chairman of Committees—The Hon. WILLIAM DOUGLAS HALL BAILLIE.

Name.	Provincial District.	Date of Appointment.
Aceland, the Hon. John Barton Arundel ..	Canterbury ..	8 July, 1865.
Arkwright, the Hon. Francis	Wellington ..	13 December, 1895.
Baillie, the Hon. William Douglas Hall ..	Marlborough ..	8 March, 1861.
Barnicoat, the Hon. John Wallis	Nelson	14 May, 1883.
Bolt, the Hon. William Mouat	Otago	15 October, 1892.
Bonar, the Hon. James Alexander	Westland	27 June, 1868.
Bowen, the Hon. Charles Christopher ..	Canterbury ..	20 January, 1891.
Feldwick, the Hon. Henry	Otago	15 October, 1892.
Grace, the Hon. Morgan Stanislaus, C.M.G.	Wellington ..	13 May, 1870.
Harris, the Hon. Benjamin	Auckland	3 February, 1897.
Holmes, the Hon. Mathew	Otago	19 June, 1866.
Jenkinson, the Hon. John Edward	Canterbury ..	6 June, 1893.
Jennings, the Hon. William Thomas ..	Auckland	15 October, 1892.
Johnston, the Hon. Charles John	Wellington ..	20 January, 1891.
Jones, the Hon. George	Otago	13 December, 1895.
Kelly, the Hon. Thomas	Taranaki	15 October, 1892.
Kelly, the Hon. William	Auckland	3 February, 1897.
Kenny, the Hon. Courtney William Aylmer Thomas	Marlborough ..	15 May, 1885.
Kerr, the Hon. James	Westland	15 October, 1892.
MacGregor, the Hon. John	Otago	15 October, 1892.
McCullough, the Hon. William	Auckland	15 October, 1892.
McLean, the Hon. George	Otago	19 December, 1881.
Miller, the Hon. Henry John (Speaker) ..	Otago	8 July, 1865.
Montgomery, the Hon. William	Canterbury ..	15 October, 1892.
Morris, the Hon. George Bentham	Auckland	15 May, 1885.
Oliver, the Hon. Richard	Otago	10 November, 1881.
Ormond, the Hon. John Davies	Hawke's Bay ..	20 January, 1891.
Peacock, the Hon. John Thomas	Canterbury ..	9 October, 1877.
Pinkerton, the Hon. David	Otago	3 February, 1897.
Reeves, the Hon. Richard Harman Jeffares	Nelson	13 December, 1895.
Reynolds, the Hon. William Hunter	Otago	30 April, 1878.
Richardson, the Hon. Edward, C.M.G. ..	Wellington ..	15 October, 1892.
Rigg, the Hon. John	Wellington ..	6 June, 1893.
Scotland, the Hon. Henry	Taranaki	24 February, 1868.
Shephard, the Hon. Joseph	Nelson	15 May, 1885.
Shrimski, the Hon. Samuel Edward	Otago	15 May, 1885.
Smith, the Hon. William Cowper	Hawke's Bay ..	13 December, 1895.
Stevens, the Hon. Edward Cephas John ..	Canterbury ..	7 March, 1882.
Stewart, the Hon. William Downie	Otago	20 January, 1891.
Swanson, the Hon. William	Auckland	15 May, 1885.
Taiaroa, the Hon. Hori Kerei	Otago	15 May, 1885.
Walker, the Hon. Lancelot	Canterbury ..	15 May, 1885.
Walker, the Hon. William Campbell ..	Canterbury ..	15 October, 1892.
Whitmore, the Hon. Sir George Stoddart, K.C.M.G.	Hawke's Bay ..	31 August, 1863.
Williams, the Hon. Henry	Auckland	7 March, 1882.

Clerk of Parliaments, Clerk of the Legislative Council, and Examiner of Standing Orders upon Private Bills—Leonard Stowe.

Clerk-Assistant—Arthur Thomas Bothamley.

Second Clerk-Assistant—George Moore.

Interpreter—Henry S. Hadfield.

HOUSE OF REPRESENTATIVES.

The number of members constituting the House of Representatives is seventy-four—seventy Europeans and four Maoris. This number was fixed by the Act of 1887, which came for the first time into practical operation at the general election of 1890. Previously (from 1881) the House consisted of ninety-five members—ninety-one Europeans and four Maoris. The North Island returns thirty-four European members, and the Middle Island thirty-six. The Cities of Auckland, Wellington, Christchurch, and Dunedin return each three members, and all other electoral districts one each. The elections are triennial, except in the case of a dissolution by the Governor. Every registered elector, being of the male sex, and free from any of the disqualifications mentioned in section 8 of "The Electoral Act, 1893," is eligible for membership. All contractors to the public service of New Zealand to whom any public money above the sum of £50 is payable, directly or indirectly, in any one financial year, as well as the Civil servants of the colony, are incapable of being elected as or of sitting or voting as members. The payment made to members of the House of Representatives is £20 per month, amounting to £240 per annum. £2 for every sitting-day exceeding five is deducted on account of absence during session not due to sickness or other unavoidable cause. Travelling-expenses to and from Wellington are also allowed. This scale of payment came into force on the 1st January, 1893, under the provisions of "The Payment of Members Act, 1892." Twenty members, inclusive of the Speaker, constitute a quorum. Unless otherwise ordered, the sitting-days of the House are Tuesdays, Wednesdays, Thursdays, and Fridays, from 2.30 p.m. to 5.30 p.m., resuming at 7.30 p.m. Order of admission to the Speaker's Gallery is by ticket obtained from the Speaker. The Strangers' Gallery is open free to the public.

ROLL OF MEMBERS OF THE HOUSE OF REPRESENTATIVES,
APRIL, 1898.

Speaker—The Hon. Sir George Maurice O'Rorke, Kt.

Chairman of Committees—Arthur Robert Guinness.

Name.	Electoral District.	Date of Notification of Return of Writ.
<i>For European Electorates.</i>		
Allen, Edmund Giblett	Waikouaiti	21 December, 1896.
Allen, James	Bruce	"
Bollard, John	Eden	"
Brown, Henry	Taranaki	"
Buchanan, Walter Clarke	Wairarapa	"
Cadman, Hon. Alfred Jerome	Ohinemuri	"
Carnecross, Walter Charles Frederick	Taieri	"
Carroll, Hon. James	Waiaapu	"
Carson, Gilbert	Wanganui	"
Crowther, William	City of Auckland	"
Duncan, Thomas Young	Oamaru	"
Duthie, John	City of Wellington	12 March, 1898.

ROLL OF MEMBERS OF THE HOUSE OF REPRESENTATIVES—
continued.

Name.	Electoral District.	Date of Notification of Return of Writ.
Field, Henry Augustus	Otaki	21 December, 1896.
Fisher, George	City of Wellington ..	"
Flatman, Frederick Robert ..	Geraldine	"
Fraser, William	Wakatipu	"
Gilfedder, Michael	Wallace	"
Graham, John	City of Nelson	"
Guinness, Arthur Robert ..	Grey	"
Hall-Jones, Hon. William ..	Timaru	"
Herries, William Herbert ..	Bay of Plenty	"
Hogg, Alexander Wilson ..	Masterton	"
Holland, James Job	City of Auckland ..	"
Houston, Robert Morrow ..	Bay of Islands	"
Hunter, George	Waipawa	"
Hutcheson, John	City of Wellington ..	"
Hutchison, George	Patea	"
Joyce, John	Lyttelton	"
Kelly, James Whyte	Invercargill	"
Lang, Frederic William ..	Waikato	"
Larnach, Hon. William James	Tuapeka	"
Mudie, C.M.G.		
Lawry, Frank	Parnell	"
Lethbridge, Frank Yates ..	Rangitikei	"
Lewis, Charles	City of Christchurch ..	"
Mackenzie, Mackay John Scobie	City of Dunedin ..	"
McGowan, James	Thames	"
McGuire, Felix	Hawera	"
McKenzie, Hon. John	Waihemo	"
McKenzie, Roderick	Motueka	"
McLean, Robert Donald Douglas	Napier	"
Massey, William Ferguson ..	Franklin	"
Meredith, Richard	Ashley	"
Millar, John Andrew	City of Dunedin ..	"
Mills, Charles Houghton ..	Wairau	"
Monk, Richard	Waitemata	"
Montgomery, William Hugh ..	Ellesmere	"
Moore, Richard	Kaipoi	"
Morrison, Arthur	Caversham	"
O'Meara, John	Pahiatua	"
O'Regan, Patrick Joseph ..	Buller	"
O'Rorke, Hon. Sir George Maurice,	Manukau	"
Knt. Bach.		
Pirani, Frederick	Palmerston	"
Richardson, Hon. George Frederick	Matanua	"
Rolleston, Hon. William ..	Riccarton	"
Russell, William Russell ..	Hawke's Bay	"
Seddon, Hon. Richard John ..	Westland	"
Sligo, Alexander	City of Dunedin ..	18 October, 1897.
Smith, George John	City of Christchurch ..	21 December, 1896.
Stevens, John	Manawatu	"
Steward, Hon. William Jukes ..	Waitaki	"
Symes, Walter	Pgmont	"
Tanner, William Wilcox ..	Avon	"
Taylor, Thomas Edward ..	City of Christchurch ..	"
Thompson, Robert	Marsden	"

ROLL OF MEMBERS OF THE HOUSE OF REPRESENTATIVES— *continued.*

Name.	Electoral District.	Date of Notification of Return of Writ.
Thompson, Hon. Thomas ..	City of Auckland ..	21 December, 1896.
Thomson, James William ..	Clutha ..	"
Ward, Hon. Joseph George ..	Awarua ..	13 August, 1897.
Wason, John Cathcart ..	Selwyn ..	21 December, 1896.
Wilson, Charles ..	Suburbs of Well'gton ..	28 April, 1897.
Wright, Edward George ..	Ashburton ..	21 December, 1896.
<i>For Maori Electorates.</i>		
Heke, Hone	Northern Maori ..	14 January, 1897.
Kaihau, Henare	Western Maori ..	"
Parata, Tame	Southern Maori ..	"
Pere, Wi	Eastern Maori ..	"

Clerk of House of Representatives—G. Friend. .

Clerk-Assistant—H. Otterson.

Second Clerk-Assistant—A. J. Rutherford.

Sergeant-at-Arms—W. Fraser.

Reader and Clerk of Bills and Papers— ..

Chief *Hansard* Reporter—J. Grattan Grey.

Interpreters—L. M. Grace, W. E. Goff.

Clerk of Writs—H. Pollen.

Deputy Clerk of Writs—R. H. Govett.

Acting Librarian—H. L. James, B.A.

OFFICIAL LIST.

[2nd April, 1898.]

CIVIL ESTABLISHMENT AT SEAT OF GOVERNMENT.

PREMIER'S OFFICE.

Premier—Rt. Hon. R. J. Seddon, P.C.

Secretary to Premier and to Cabinet—
A. J. Willis

COLONIAL SECRETARY'S DE- PARTMENT.

CHIEF OFFICE.

Colonial Secretary—Hon. James Carroll
(acting)

Under-Secretary—Hugh Pollen

Chief Clerk—R. H. Govett

Clerks—R. F. Lynch, J. F. Andrews,
L. W. Loveday

Housekeeper and Chief Messenger—W.
H. Hennah

AUDIT OFFICE.

Controller and Auditor-General—J. K.
Warburton.

Assistant Controller and Auditor—J. C.
Gavin

Chief Clerk—L. C. Roskrige

Clerks—W. Dodd, H. S. Pollen, W. G.

Holdsworth, E. J. A. Stevenson, C.

M. Georgeson, J. Skerrett

Cadet—J. H. Fowler

Extra Clerks—D. C. Innes, J. Swift, A.

E. Bybles, J. Ward, A. A. Bethune,

B. A. Meek, C. E. Briggs

Audit Officer, Agent-General's Office,
London—C. F. W. Palliser

Audit Inspectors—P. P. Webb, A. H.

Maclean, J. King, A. W. Eames, E.

T. Greville, G. H. I. Easton, C. P.

Johnson, J. T. Dumbell, W. H. Car-

lyle, H. A. Lamb

REGISTRAR-GENERAL'S OFFICE.

Registrar-General—E. J. Von Dadelszen
 Chief Clerk—G. Drury
 Clerks—F. H. Machattie, S. Coffey, W. W. Cook.
 Cadet—Ben Keys

PRINTING AND STATIONERY DEPARTMENT.

Government Printer, Stationery Office
 Manager, and Controller of Stamp
 Printing—John Mackay
 Superintending Overseer—J. Burns
 Chief Clerk and Accountant—B. B. Allen
 Clerk and Computer—N. B. K. Manley
 Clerks—F. Barraud, J. W. Hall, R. Watts, A. Stace, A. Williams
 Cadet—R. A. Gray
Hansard Supervisor—M. F. Marks
 Overseers—J. J. Gamble, B. Wilson
 Sub-overseer, Jobbing-room—G. Tattle
 Overseer, Machine-room—C. Young
 Overseer, Binding Branch—W. Franklin
 Sub-overseer, Binding Branch—G. H. Broad
 Night Foreman—J. F. Rogers
 Stamp Printer—H. Hume
 Stereotyper and Electrotyper—W. J. Kirk
 Readers—W. Fuller, H. S. Mountier
 Forewoman, Binding Branch—Miss O'Malley
 Engineer—T. R. Barrer

COLONIAL TREASURER'S DEPARTMENT.

CHIEF OFFICE.

Colonial Treasurer—Rt. Hon. R. J. Seddon, P.C.
 Secretary to the Treasury, Receiver-General, Paymaster-General, and Registrar of Consols—James B. Heywood
 Accountant to the Treasury—Robert J. Collins
 Cashier—C. E. Chitney
 Corresponding Clerk—H. Blundell
 Clerks—C. Meacham, R. B. Vincent, W. E. Cooper, J. Driscoll, E. L. Mowbray, A. O. Gibbes, J. Holmes, H. N. W. Church, J. Eman Smith, T. H. Burnett, J. Radcliffe, A. J. Morgan, T. J. Davis, P. McIntyre, F. H. Tuckey
 Cadets—W. Wilson, G. A. Fraser
 Cadettes—H. L. Hansen, E. Fisher
 Officer for Payment of Imperial Pensions at Auckland—B. J. Daveney

FRIENDLY SOCIETIES' AND TRADES UNIONS' REGISTRY OFFICE; ALSO OFFICE OF THE REGISTRAR UNDER THE INDUSTRIAL CONCILIATION AND ARBITRATION ACT.

Registrar—E. Mason
 Revising Barrister for Friendly Societies and Trades Unions—L. G. Reid
 Clerk—C. T. Benzoni

DEPARTMENT OF INDUSTRIES AND COMMERCE.

Minister—Hon. T. Thompson
 Clerk—A. M. Smith

LAND AND INCOME TAX DEPARTMENT.

Commissioner—John McGowan
 Deputy Commissioner—G. F. C. Campbell
 Chief Clerk—F. J. M. D. Walmsley
 Accountant—P. Heyes
 Clerks—H. Nancarrow, A. J. McGowan, J. M. King, G. W. Jänisch, J. W. Black, W. M. Tyers, A. F. Oswin, D. R. Purdie, C. V. Kreeft, D. G. Clark, J. Stevenson, J. R. Smyth, R. Hepworth, J. J. Hunt, C. de R. Andrews
 Cadet—E. J. R. Cumming

DEPARTMENT OF JUSTICE.

HEAD OFFICE.

Minister of Justice—Hon. T. Thompson
 Under-Secretary—F. Waldegrave
 Translator—G. H. Davies
 Clerks—C. B. Jordan, C. E. Matthews, W. D. Anderson, G. F. Dixon

CROWN LAW OFFICE.

Attorney-General—(vacant)
 Solicitor-General—W. S. Reid
 Assistant Law Officer—L. G. Reid
 Law Draftsman—F. Fitchett, M.A., LL.D.
 Clerk—E. Y. Redward

PATENT OFFICE.

Registrar of Patents, Designs, and Trade-marks—F. Waldegrave
 Deputy Registrar—J. C. Lewis
 Clerks—M. J. Organ, Mary Eyre

JUDICIAL.

Supreme Court Judges.

Chief Justice—

Wellington—Sir J. Prendergast, Knt.

Puisne Judges—

Wellington—W. B. Edwards

Auckland—E. T. Conolly

Christchurch—J. E. Denniston

Dunedin—J. S. Williams

*District Court Judges.*Wairarapa, Wanganui, New Plymouth,
Hawera, and Palmerston North—O. C.
Kettle

Nelson—H. W. Robinson

Ashburton, Timaru, Oamaru, Queens-
town, Naseby, Lawrence, Invercargill,
Hokitika, Greymouth, Westport, and
Reefton—C. D. R. Ward*Registrars of the Supreme Court.*

Auckland—H. C. Brewer

New Plymouth—R. L. Stanford

Wanganui—C. O. Kettle

Napier—A. Turnbull

Gisborne—W. A. Barton

Wellington—D. G. A. Cooper

Nelson—H. W. Robinson

Blenheim—J. Allen

Christchurch—A. R. Bloxam

Hokitika—A. H. King

Dunedin—C. McK. Gordon

Invercargill—F. G. Morgan

Sheriffs.

Auckland—H. C. Brewer

Taranaki—A. H. Holmes

Hawke's Bay—A. Turnbull

Poverty Bay—W. A. Barton

Wellington—D. G. A. Cooper

Wairarapa—W. R. Haselden

Wanganui and Rangitikei—A. D. Thom-
son

Nelson—W. Heaps

Westland North—E. C. Kelling

Central Westland—H. Lucas

Marlborough—J. B. Stoney

Canterbury—A. R. Bloxam

Timaru—C. A. Wray

Westland—A. H. King

Otago—C. McK. Gordon

Southland—J. R. Colyer

Crown Solicitors.

Auckland—Hon. J. A. Tole

New Plymouth—A. Standish

Gisborne—J. W. Nolan

Napier—A. J. Cotterill

Wellington—H. Gully

Wanganui—S. T. Fitzherbert

Nelson—C. Y. Fell

Blenheim—R. McCallum

Christchurch—T. W. Stringer

Timaru—J. W. White

Hokitika—

Dunedin—

Invercargill—T. M. Macdonald

Oamaru—A. G. Creagh

Crown Prosecutors (District Courts).

New Plymouth—A. Standish

Hawera—E. L. Barton

Wanganui and Palmerston North—S. T.

Fitzherbert

Masterton—A. R. Bunney

Westport and Reefton—C. E. Harden

Hokitika—J. Park

Greymouth—M. Hannan

Timaru—J. W. White

Oamaru—A. G. Creagh

Nelson—C. Y. Fell

Queenstown—Wesley Turton

Invercargill—T. M. Macdonald

Stipendiary Magistrates.

Auckland—H. W. Brabant

Pokeno, Waikato, &c.—T. Jackson

Onehunga, &c.—T. Hutchison*

Russell, &c.—J. S. Clendon

Tauranga, &c.—J. M. Roberts*

Thames, &c.—R. S. Bush*

Gisborne, &c.—J. Booth

New Plymouth—R. L. Stanford

Hawera, &c.—H. W. Northcroft

Wanganui, &c.—C. C. Kettle

Palmerston North, &c.—A. Greenfield

Wellington, &c.—H. Eyre Kenny

Wairarapa, &c.—W. R. Haselden

Napier, &c.—A. Turnbull

Nelson—H. W. Robinson*

Motueka, Collingwood, &c.—Wilson
Heaps*

Blenheim, &c.—J. Allen*

Christchurch, &c.—R. Beetham

Kaiapoi, &c.—H. W. Bishop

Timaru, &c.—C. A. Wray

Greymouth, Westport, &c.—H. A. Strat-
ford*

Hokitika, &c.—D. Macfarlane*

Dunedin, &c.—E. H. Carew*

Oamaru, &c.—J. Keddel*

Milton, &c.—R. S. Hawkins*

Clyde, &c.—S. E. McCarthy.*

Naseby—S. M. Dalgleish*

Invercargill, &c.—J. W. Poynton*

Chatham Islands—(vacant)

* Are also Wardens of Goldfields.

Official Assignees in Bankruptcy.

Auckland—J. Lawson, J.P.
Wellington—J. Ashcroft, J.P.
Christchurch—G. L. Greenwood
Dunedin—C. C. Graham, J.P.

Clerks of District and Magistrates' Courts.

New Plymouth—A. H. Holmes
Hawera—A. Trimble
Wanganui—A. D. Thomson
Palmerston North—W. Matrauers
Masterton—F. H. Ibbetson
Nelson—C. H. Webb-Bowen
Hokitika—C. A. Barton
Greymouth—B. Harper
Westport—E. C. Kelling
Reefton—H. Lucas
Timaru—T. Howley
Ashburton—T. W. Tayler
Oamaru—H. H. G. Ralfe
Invercargill—J. R. Colyer
Queenstown—H. N. Firth
Lawrence—A. M. Eyes
Naseby—John Terry

Receivers of Gold Revenue, Mining Registrars, and Clerks of Wardens' and Magistrates' Courts.

Thames—J. Jordan
Coromandel—T. M. Lawler
Paeroa—T. A. Moresby
Te Aroha—J. M. Hickson
Tauranga—J. Thomson
Whangarei—G. M. Robertshaw
Havelock and Cullensville (Marlborough)
—J. P. Ward
Nelson—C. H. Webb-Bowen
Motueka—H. E. Gilbert
Collingwood—S. J. Dew
Westport—E. C. Kelling
Charleston—J. P. W. Philpotts
Reefton—H. Lucas
Greymouth—B. Harper
Kumara—J. McEneaney
Hokitika—C. A. Barton
Naseby, &c.—John Terry
Wyndham—D. Bogue
Clyde, Blacks, and Alexandra—F. T. D. Jeffrey
Cromwell—J. Fleming
Queenstown and Arrowtown—H. N. Firth
Lawrence—A. M. Eyes
Riverton—A. A. Mair

Clerks of Magistrates' Courts.

Auckland—F. J. Burgess
Gisborne—W. A. Barton

Hamilton—T. Kirk
Napier—R. B. Mathias
Hastings—P. Skerrett
Marton, &c.—F. M. Deighton.
Wellington—W. P. James
Blenheim—J. B. Stoney
Christchurch—W. Martin
Lyttelton—W. Shanaghan
Kaiaipoi—M. Lynskey
Dunedin—W. G. P. O'Callaghan

NATIVE LAND COURT.

Chief Judge—G. B. Davy
Judges—A. Mackay, D. Scannell, R. Ward, H. W. Brabant, W. E. Gudgeon, W. J. Butler, H. F. Edger, W. G. Mair, J. A. Wilson, H. D. Johnson, J. M. Batham
Registrars—Auckland, J. W. Browne; Gisborne, J. Brooking; Wellington, E. Buckle

Commissioners of the Native Land Court.

R. S. Bush, J. Booth, A. Turnbull, J. S. Clendon, T. Jackson, C. C. Kettle, J. M. Roberts, W. Stuart, H. W. Bishop, E. H. Carew, H. E. Kenny, R. L. Stanford, T. Hutchison: Sub-commissioner—J. Brooking
Government Native Agent, Otorohanga—G. T. Wilkinson

VALIDATION COURT.

Chief Judge—G. B. Davy
Judges—The Judges of the Native Land Court
Registrar and Clerk—Gisborne, R. C. Sim; Auckland, J. W. Browne, Wellington, E. Buckle

CORONERS.

Coroners—Auckland, T. M. Philson, H. W. Brabant, T. Hutchison, E. Baker; Akaroa, G. H. Saxton; Blenheim, J. Allen; Christchurch, R. Beetham and H. W. Bishop; Clyde, S. E. McCarthy; Collingwood, E. Davidson; Coromandel, A. R. H. Swindley; Dunedin, E. H. Carew; Foxton, E. S. Thynne; Gisborne, J. Booth; Greymouth, H. A. Stratford; Huntly, T. H. White; Hawera, C. E. Major; Hokitika, D. Macfarlane and R. W. Wade; Invercargill, J. W. Poynton; Lawrence, R. S. Hawkins; Marton, A. Simpson; Masterton, W. R. Haselden; Napier, A. Turnbull; Naseby, S. M. Dalgleish; Nelson, H.

W. Robinson, and L. G. Boor; New Plymouth, R. L. Stanford; Oamaru, J. Kaddell; Opotiki, S. Bates; Otahuhu, S. Luke; Otaki, W. H. Simcox; Paeroa, W. Forrest; Palmerston North, A. Greenfield and G. M. Snelson; Pokeno, T. Jackson; Port Albert, J. Shepherd; Pahi, J. B. Ariell; Queenstown, L. Hotop and S. E. McCarthy; Raglan, W. H. Wallis; Stratford, H. J. C. Coutts; Tauranga, A. C. H. Tovey and J. M. Roberts; Te Awamutu, T. Gresham; Timaru, C. A. Wray; Te Kopuru, T. Webb; Thames, A. Bruce and R. S. Bush; Waimate, E. M. Williams; Waipawa, S. Johnson; Wellington, J. Ashcroft; Wanganui, H. W. Northcroft and C. C. Kettle; Whangarei, J. Bell; Woodville, E. J. Gothard; Chatham Islands (vacant).

NEW ZEALAND POLICE FORCE.

Head Office.

Commissioner—John Bennett Tunbridge
Clerks—John Evans, John Tasker, William John Mahoney
Cadet—Walter Gollan

Police Department.

Inspectors, 1st Class—Thomas Broham, Peter Pender, William Stone Parry, John Emerson, James Hickson, Francis McGovern
Inspector, 3rd Class—John Cullen

PRISONS DEPARTMENT.

Inspector—Lieut.-Colonel Arthur Hume, N.Z.M.
Clerk—T. E. Richardson
Gaolers—Auckland, George Sinclair Reston; Dunedin, Samuel Charles Phillips; Hokitika, Michael Flannery; Invercargill, John Henry Bratby; Lyttelton, Matthew Michael Cleary; Napier, Francis Edward Severne; New Plymouth, Bartholomew Lloyd O'Brien; Wanganui, Robert T. N. Beasley; Wellington, Patrick Samuel Garvey

DEPARTMENT OF LABOUR

Minister of Labour—Rt. Hon. R. J. Seddon, P.C.
Secretary for Labour and Chief Inspector of Factories—E. Tregear
Chief Clerk—James Mackay
Clerk—F. W. T. Rowley
Cadet—F. A. De la Mare
Typist—J. W. Collins

INSPECTORS OF FACTORIES.

North Island—J. Mackay, J. Shanaghan, H. Ferguson, L. D. Browett, W. J. Blake, Margaret Scott, and 71 local Inspectors
South Island—J. Mackay, J. Shanaghan, J. Lomas, H. Maxwell, W. J. McKeown, Margaret Scott, and 68 local Inspectors
(There are also 200 Bureau Agents in different parts of the colony.)

PUBLIC WORKS DEPARTMENT. HEAD OFFICE.

Minister for Public Works—Hon. W. Hall-Jones
Under-Secretary—H. J. H. Blow
Engineer-in-Chief—W. H. Hales
Superintending Engineer—P. S. Hay, M.A., M.Inst.C.E.
Chief Clerk—J. A. McArthur
Accountant—G. J. Clapham
Land-purchase Officer—H. Thompson
Record Clerk—H. W. H. Millais
Clerks—W. D. Dumbell, A. S. Lewis, E. McCarthy, J. H. McAlister, A. R. Stone, H. R. Rae, N. Jacobs, P. S. Waldie, E. Bold, E. Horneman, F. E. Banks, L. White
Chief Draughtsman—W. G. Rutherford
Architect—J. Campbell
Draughtsmen—T. Perham, E. Jackson, W. Withers, W. G. Swan, J. H. Price, E. McC. Blake
Engineering Cadet—F. P. Bartley
Head Storekeeper—John Young

DISTRICT OFFICES.

District Engineers—Auckland, C. R. Vickerman; Dunedin, E. R. Ussher, M.Inst.C.E.
Resident Engineers—Hunterville, G. L. Cook, M.Inst.C.E.; Westport, T. H. Rawson, M.I.C.E.; Greymouth, J. Thomson, B.E.; Jackson's, J. A. Wilson; Hyde, W. A. Shain. In charge of North Island Main Trunk Railway survey, R. W. Holmes
Assistant Engineers—J. D. Louch, A. C. Koch, F. M. Hewson, D. Ross, J. J. Hay, M.A., W. H. Gavin, T. Roberts, J. H. Dobson, J. S. Stewart, S. J. Harding, C. E. Armstrong, J. H. Lewis, H. Dickson, J. W. E. McEnnis
Engineering Cadets—F. W. Furkert, A. Jack, J. Meenan, W. A. Jeff, W. Sherratt, C. J. McKenzie

Clerks, Draughtsmen, &c.—W. Black, C. T. Rushbrook, C. Wood, L. F. Tegnér, A. Biddell, W. A. Cumming, E. C. Farr, P. F. M. Burrows, J. H. Denton, E. Waddell, G. Glenister, J. C. Fulton, T. Douglas, J. B. Borton, W. H. Hislop, C. Scholfield, W. E. Butler, A. H. Kimbell, L. M. Shera, A. W. Hamann

RAILWAYS DEPARTMENT.

Minister for Railways—Hon. A. J. Cadman

General Manager—T. Ronayne

Assistant General Manager—C. Hudson

Chief Clerk—T. W. Waite

Clerks—R. W. McVilly, C. Isherwood, E. J. Andrews, B. M. Wilson, W. Johnston, J. E. Widdop, W. H. Gifford, R. D. Scott, A. J. Will, W. H. Warren, S. S. Millington

Audit Inspectors—H. Baxter, D. Munro, C. L. Russell

Railway Accountant—A. C. Fife

Clerks—H. Davidson, J. H. Davies, G. G. Wilson, M. C. Rowe, S. P. Curtis, J. McLean, E. Davy, A. Morris, E. P. Brogan, C. Batten, W. B. Fisher, J. Firth, E. J. Fleming, H. H. Leopard, R. J. Loe, F. W. Lash, A. H. Hunt, W. Bourke, W. H. Hales, W. E. Ahern, T. A. O'Connor, H. H. Bell

Stores Manager—G. Felton

Clerks—A. M. Heaton, F. J. Dawes, G. H. Cottam, S. Alpe, H. W. Barbor, R. H. Stephens, E. J. Maguiness, H. R. Carey, L. B. Archibald

District Managers—Kaihu, T. H. Barstow; Auckland, A. Grant; Wanganui, H. Buxton; Napier and Wellington, T. E. Donne; Greymouth, C. A. Piper; Picton, H. B. Dobbie; Nelson, G. E. Richardson; Christchurch, W. H. Gaw; Dunedin, T. Arthur; Invercargill, S. F. Whitcombe

Stationmasters in charge—Kawakawa, R. B. Peat; Whangarei, A. B. Duncan; Westport, T. Hay-Mackenzie

Chief Engineer for Working Railways—J. H. Lowe, M.Inst.C.E.

Inspecting Engineer—J. Ooom, M.Inst.C.E.

Railway Land Officer—E. G. H. Mainwaring

Chief Draughtsman—G. A. Troup

Draughtsmen—J. Besant, W. R. B. Bagge, C. T. Jeffreys, H. D. Thomson

Clerks—W. P. Hicks, W. S. Ridler, M. Angus, J. T. Ford, W. A. Mirams, H. Jessup, H. W. Rowden, R. S. Kent, E. D. Richards, A. N. Longton, W. A. Lancaster

District Engineers—Auckland, C. H. Biss; Wanganui, D. T. McIntosh; Westport, J. D. Harris; Greymouth, H. St. J. Christophers; Christchurch, James Burnett; Dunedin, F. W. MacLean; Invercargill, H. Macandrew

Assistant Engineer, Wellington-Napier—J. W. Richmond

Locomotive Superintendent—T. F. Rotherham

Clerks—R. Triggs, C. Loveday, R. Aekins, W. J. Stringer, E. R. Nicholson, P. A. Buck, C. G. Edwards, J. Rumgay, W. B. Sinclair, W. A. Wellings, C. H. Virtue, J. W. Lowry, N. G. Ward

Chief Draughtsman—G. A. Pearson

Draughtsmen—R. Pye-Smith, E. E. Gillon

Locomotive Engineers—Auckland, A. V. Macdonald; Wanganui-Napier, H. H. Jackson; Wellington, T. A. Peterkin; Hurunui-Bluff, A. L. Beattie; Relieving, J. H. Fox

BOARD OF APPEAL.

North Island.

H. Eyre Kenny, Stipendiary Magistrate, Chairman, appointed by the Governor.

H. Davidson, Railway Accountant's Office, elected.

T. Wilson, Fireman, elected.

Midale Island.

C. D. R. Ward, District Judge, Chairman, appointed by the Governor.

H. Baxter, Railway Audit Inspector, elected.

D. Handisides, Workshop Foreman, elected.

POST AND TELEGRAPH DEPARTMENT.

GENERAL POST OFFICE.

Postmaster-General and Commissioner of Electric Telegraphs—Rt. Hon. R. J. Seddon, P.C.

Secretary—W. Gray

Superintendent of Electric Lines—J. K. Logan

Assistant Secretary and Inspector—T. Rose

Controller of Money-orders and Savings-banks, and Accountant—G. Gray

Chief Clerk—D. Robertson

Clerks—W. R. Morris, E. V. Senn, F. V. Waters, H. Plummer, J. C. Williamson, W. Crow, W. Isbister, L. Ledger, V. J. Brogan, W. Callaghan, G. W. Moorhouse, W. Obegwidde, H. S. B. Miller, H. Huggins, G. V. Hudson, F. Perrin, H. D. Grocott, J. Brennan, H. Cornwall, R. J. Thompson, R. E. Hayes, D. A. Jenkins, E. Fitzsimons, H. N. McLeod, J. C. Redmond, C. B. Harton, H. A. Smith, W. J. Drake, J. D. Avery, A. H. Tucker, J. G. Roache, J. Coyle, F. W. Faber, W. H. Carter, P. Tyrrell, A. T. Markmann, P. Kelleher, W. A. Tanner, H. A. English, G. H. Harris, H. C. Hickson, C. Dempsey, P. D. Hoskins, H. C. Milne, J. G. Howard, W. R. Wakelin, C. J. Panting, F. Stewart, T. E. Diamond, E. Birmingham, C. Birmingham, S. Brock, E. Harris, B. Kenny, V. Johnston, M. A. McLeod, C. Smith, M. A. Asquith
Electrician—W. C. Smythe
Mechanician—H. F. Smith
Assistant Mechanicians—A. W. Macandrew, F. Palmer

Storekeeper—J. Black

Assistant Storekeeper—C. B. Mann

Clerks in Store—C. Nicholls, T. Palmer

Cadets in Store—F. H. Guinness, M. McGilvray

Circulation Branch (Post Office)—J. Hoggard, Chief Clerk

INSPECTORS OF TELEGRAPHS.

Auckland—E. H. Bold

Christchurch—W. G. Meddings

Dunedin—J. Orchiston

ASSISTANT INSPECTORS OF POST OFFICES.

D. Cumming, C. J. A. H. Tipping, S. P. Stevens

SUB-INSPECTOR OF TELEGRAPHS.

Nelson—J. W. Gannaway

CHIEF POSTMASTERS.

Auckland—S. B. Biss

*Thames—J. E. Coney

*Gisborne—G. W. Sampson

Napier—S. J. Jago

*New Plymouth—F. D. Holdsworth

*Wanganui—J. F. McBeth

*Blenheim—J. Bull

*Nelson—H. Calders

*Westport—J. H. Sheath

* Combined post- and telegraph-offices.

*Greymouth—C. J. Berry

*Hokitika—W. St. G. Douglas

Christchurch—R. Kirtan

*Timaru—J. A. Hutton

*Oamaru—W. W. Beswick

Dunedin—E. Cook

*Invercargill—J. W. Wilkin

OFFICERS IN CHARGE OF TELEGRAPH OFFICES.

Auckland—W. S. Furby

Napier—H. W. Harrington

Wellington—C. C. Robertson

Christchurch—J. W. Mason

Dunedin—J. G. Ballard

BOARD OF APPEAL.

J. McGowan, Commissioner of Taxes, Chairman (by Act).

J. K. Logan, Superintendent of Electric Lines (by Act).

J. H. Stevens, Representing Postal Branch, elected.

W. McNickle, Representing Telegraph Branch, elected.

DEPARTMENT OF TRADE AND CUSTOMS.

Commissioner of Trade and Customs—Rt. Hon. R. J. Seddon, P.C.

Secretary and Inspector of Customs and Secretary of Marine—W. T. Glasgow.

Chief Clerk—T. Larchin

Clerks, Customs—H. J. Marsh, F. Oxford

Audit—H. W. Brewer, H. Crowther (Writer)

COLLECTORS OF CUSTOMS.

Auckland—A. Rose

Poverty Bay—E. Pasley

New Plymouth—H. Bedford

Napier—E. R. C. Bowen

Wellington—D. McKellar

Wanganui—A. Elliott

Wairau—W. J. Hawley

Nelson—W. Heaps

Westport—J. Mills

Greymouth—A. McDowell

Hokitika—E. Chilman

Lyttelton and Christchurch—E. Patten

Timaru—A. Hart

Oamaru—J. P. Ridings

Dunedin—C. W. S. Chamberlain

Invercargill and Bluff Harbour—D. Johnston, jun.

* Combined post- and telegraph-offices.

**OFFICERS IN CHARGE OF PORTS, AND
COASTWAITERS.**

Thames—T. C. Bayldon, Coastwaiter
 Russell—H. Stephenson, Coastwaiter
 Tauranga—E. Northcroft, Officer in
 Charge
 Whangaroa—A. G. Ratcliffe, Coastwaiter
 Whangarei—J. Munro, Coastwaiter
 Mongonui—A. D. Clemett, Officer in
 Charge
 Hokianga—G. Martin, Coastwaiter
 Kaipara—J. C. Smith, Officer in Charge
 Waitara—J. Cameron, Coastwaiter
 Foxton—J. B. Imrie, Officer in Charge
 Patea—J. W. Glenney, Officer in Charge
 Picton—F. Teesdale, Officer in Charge
 Chatham Islands— Officer in Charge

MARINE DEPARTMENT.

Minister of Marine—Hon. W. Hall-Jones
 Secretary—W. T. Glasgow
 Chief Clerk—G. Allport
 Clerks—J. J. D. Grix, G. Sinclair
 Cadet—A. P. Owens
 Marine Engineer for the Colony—W.
 H. Hales.
 Nautical Adviser and Chief Examiner of
 Masters and Mates—G. Allman
 Examiner of Masters and Mates—Wel-
 lington, R. A. Edwin, Com. R.N.
 Weather Reporter—R. A. Edwin, Com.
 R.N.
 Examiners of Masters and Mates, Auck-
 land—T. C. Tilly and J. Adamson
 Examiner of Masters and Mates,
 Lyttelton—J. A. H. Marciel
 Examiner of Masters and Mates, Dun-
 edin—W. J. Grey
 Inspectors of Machinery, Engineer Sur-
 veyors, and Examiners of Engineers:—
 Auckland—W. J. Jobson and L. Black-
 wood; Wellington—R. Duncan (Prin-
 cipal), H. A. McGregor, P. Carman,
 and A. McVicar; Christchurch—G.
 Croll; Dunedin—A. Morrison and
 H. Wetherilt
 Master of s.s. Tutanekai—J. Fairchild
 Master of s.s. Hinemoa—C. F. Post

INSPECTORS OF SEA FISHERIES.

Russell—H. Stephenson
 Whangarei—J. Munro
 Wellington—F. Moorhouse
 Hokitika—J. Duncan
 Bluff—P. McGrath

HARBOURMASTERS.*

Collingwood—J. E. Fletcher
 Foxton—A. Seabury
 Hokianga—G. Martin
 Kaipara—J. Christy Smith
 Manukau—J. Neale
 Motueka—H. L. Moffatt
 Nelson—F. W. Cox
 Okarito—J. W. Thomson
 Picton—H. B. Dobbie
 Port Robinson—J. Sinclair
 Russell—H. Stephenson
 Waitapu—S. G. Robinson

STAMP DEPARTMENT.

Commissioner of Stamp Duties—Hon.
 Jas. Carroll
 Secretary for Stamps—C. A. St. G. Hickson
 Chief Clerk and Accountant—H. O.
 Williams
 Custodian and Issuer of Stamps—W. H.
 Shore
 Record and Receiving Clerk—J. P.
 Murphy
 Clerk—J. Murray
 Chief Stamper—C. Howe
 Cadets—E. A. Morling, W. Wilkes

DEPUTY COMMISSIONERS OF STAMPS.

Auckland—E. Bamford
 Gisborne—C. H. W. Dixon
 Taranaki—R. L. Stanford
 Hawke's Bay—Thos. Hall
 Wellington—C. A. St. G. Hickson
 Wanganui—J. F. McBeth
 Nelson—W. W. de Castro
 Marlborough—A. V. Sturtevant
 Canterbury—E. Denham
 Timaru—J. A. Hutton
 Otago—P. C. Corlies
 Southland—F. G. Morgan
 Westland—A. H. King

**LAND TRANSFER DEPARTMENT
AND DEEDS REGISTRY.**

Registrar-General of Land and Deeds—
 G. B. Davy
 Secretary, Land and Deeds—C. A. St. G.
 Hickson

**DISTRICT LAND REGISTRARS AND
REGISTRARS OF DEEDS.**

Auckland—E. Bamford
 Taranaki—R. L. Stanford
 Wellington—Wm. Stuart
 Hawke's Bay—Thos. Hall
 Gisborne—J. M. Batham

* The more important harbours are controlled
 by local Boards, not by the Marine Department.

Nelson—H. W. Robinson
 Marlborough—J. Allen
 Canterbury—G. G. Bridges, District
 Land Registrar; E. Denham, Regis-
 trar of Deeds
 Otago—H. Turton
 Southland—F. G. Morgan
 Westland—A. H. King

EXAMINERS OF TITLES.

Auckland—E. Bamford
 Taranaki—R. L. Stanford
 Wellington—Wm. Stuart, H. Howorth
 Hawke's Bay—Thos. Hall
 Gisborne—J. M. Batham
 Nelson—H. W. Robinson
 Marlborough—Wm. Stuart
 Canterbury—G. G. Bridges
 Otago—H. Turton
 Southland—F. G. Morgan
 Westland—A. H. King

REGISTRAR OF JOINT-STOCK COMPANIES.

C. A. St. G. Hickson

REGISTRARS OF BUILDING SOCIETIES, IN- DUSTRIAL AND PROVIDENT SOCIETIES, AND ASSISTANT REGISTRARS OF JOINT- STOCK COMPANIES.

Auckland—E. Bamford
 Taranaki—R. L. Stanford
 Hawke's Bay—Thos. Hall
 Wellington—H. O. Williams
 Nelson—W. W. de Castro
 Marlborough—A. V. Sturtevant
 Canterbury—E. Denham
 Otago—P. C. Corliss
 Southland—F. G. Morgan
 Westland—A. H. King

EDUCATION DEPARTMENT.

Minister of Education (administering also
 Native schools, industrial schools, and
 the institution for deaf-mutes)—Hon.
 W. C. Walker

Secretary for Education and Inspector-
 General of Schools—Rev. W. J.
 Habens, B.A.

Chief Clerk—Sir E. O. Gibbes, Bart.

Clerks—F. K. de Castro, H. B. Kirk,
 M.A., R. H. Pope, F. L. Severne, E. C.
 Banks, F. D. Thomson, T. G. Gilbert.
 Inspector of Native Schools—James H.
 Pope. Assistant Inspector—H. B.
 Kirk, M.A.

EDUCATION BOARDS.

Auckland—V. E. Rice, Secretary
 Taranaki—E. Veale, Secretary

Wanganui—A. A. Browne, Secretary
 Wellington—A. Dorset, Secretary
 Hawke's Bay—G. T. Fannin, Secretary
 Marlborough—J. Smith, Secretary
 Nelson—S. Ellis, Secretary
 Grey—W. Riemenschneider, Secretary
 Westland—A. J. Morton, B.A., Secretary
 Canterbury North—H. C. Lane, Secre-
 tary
 Canterbury South—J. H. Bamfield,
 Secretary
 Otago—P. G. Pryde, Secretary
 Southland—J. Neill, Secretary

SCHOOL COMMISSIONERS

(Administrators of Education Reserves).

Auckland—H. N. Garland, Secretary
 Taranaki—E. Veale, Secretary
 Wellington—N. J. Tone, Secretary
 Hawke's Bay—E. P. A. Platford, Secre-
 tary
 Marlborough—J. Smith, Secretary
 Nelson—A. T. Jones, Secretary
 Westland—A. J. Morton, Secretary
 Canterbury—H. H. Pitman, Steward of
 Reserves
 Otago—C. Macandrew, Secretary

INDUSTRIAL SCHOOLS.

Government Schools.

Auckland Industrial School—Miss S. E.
 Jackson, Manager
 Burnham Industrial School (Canterbury)
 —T. Palethorpe, Manager
 Caversham Industrial School (Otago)—
 G. M. Burlinson, Manager

Private Schools.

St. Mary's Industrial School, Ponsonby
 —Right Rev. Bishop Lenihan, Manager
 St. Joseph's Industrial School, Welling-
 ton—Rev. W. J. Lewis, Manager
 St. Mary's Industrial School, Nelson—
 Rev. W. J. Mahoney, Manager

INSTITUTION FOR DEAF-MUTES, SUMNER.

Director—G. van Asch
 Steward—H. Buttle

LUNATIC ASYLUMS.

Inspector—Duncan MacGregor, M.A.,
 M.B., C.M.
 Deputy Inspector—Mrs. Grace Neill
 Medical Superintendent, Auckland Asy-
 lum—R. M. Beattie, M.B.
 Medical Superintendent, Christchurch
 Asylum—E. G. Levinge, M.B.

Medical Superintendent, Wellington and Porirua Asylums—Gray Hassell, M.D.
 Medical Superintendent, Seacliff Asylum—F. Truby King, M.B.
 Superintendent, Hokitika Asylum—H. Gribben
 Superintendent, Nelson Asylum—J. Morrison
 Ashburn Hall, Waikari (private asylum)—Proprietors, Dr. Alexander and Executor of James Hume; Medical Officer, Frank Hay, M.B.

MINES DEPARTMENT.

CHIEF OFFICE.

Minister of Mines—Hon. A. J. Cadman
 Under-Secretary for Mines—H. J. H. Elliott
 Inspecting Engineer—George Wilson
 Chief Clerk—T. H. Hamer
 Clerk—H. E. Radcliffe
 Analyst—W. Skey
 Geologist—Alexander McKay, F.G.S.
 Assistant Geologist—W. A. McKay
 Draughtsman—C. H. Pierard
 Cadet—J. T. Watkins

INSPECTORS OF MINES.

Thames and Auckland Districts—James Coutts; Assistant Inspector, Thomas Ryan; Canterbury, Dunedin, and Southland Districts—J. Hayes (Acting); Cadet, H. Patton; West Coast Districts—R. Tennent; Assistant Inspector—A. H. Richards

MINING BUREAU.

Secretary—P. Galvin

MANAGERS OF WATER-RACES.

Waimea-Kumara—A. Aitken
 Mount Ida—R. Murray

SCHOOLS OF MINES.

Lecturers and Instructors: Thames—F. B. Allen, M.A., B.Sc.; Reefton—R. M. Aitken

BOARD OF EXAMINEES UNDER "THE COAL-MINES ACT, 1891."

The Director of the Geological Survey of New Zealand; the Surveyor-General; the Inspecting Engineer of Mines; the Chief Inspector of Machinery, Wellington; James Bishop, of Brunerton; Thomas Brown, of Denniston; and William Shore, of Kaitangata

BOARD OF EXAMINEES UNDER "THE MINING ACT, 1891."

Same official members as above Board, with the following private members: H. A. Gordon and Thomas Dunlop, of the Thames; Patrick Quirk Caples, of Reefton, and Francis Hodge, of Coromandel.

The Director of the Geological Survey of New Zealand is Chairman of both Boards, and Mr. T. H. Hamer is the Secretary.

GEOLOGICAL SURVEY, MUSEUM, AND OBSERVATORIES.

Minister in Charge—The Hon. Minister of Mines
 Director—Sir J. Hector, K.C.M.G., M.D., F.R.S.
 Clerk, Curator, and Meteorological Observer for Wellington—R. B. Gore
 Astronomical Observer—T. King
 Meteorological Observer, Auckland—T. F. Cheeseman, F.L.S.
 Meteorological Observer, Dunedin—H. Skey
 Meteorological Observer, New Plymouth—E. Veale
 Meteorological Observer, Hokitika—A. D. Macfarlane

NEW ZEALAND INSTITUTE.

Manager—Sir J. Hector, K.C.M.G., M.D., F.R.S.
 Hon. Treasurer—W. T. L. Travers, F.L.S.
 Secretary—R. B. Gore

DEFENCE DEPARTMENT.

Minister of Defence—Hon. T. Thompson
 Under-Secretary—Major Sir A. P. Douglas, Bart., late R.N.

Commander of the N.Z. Forces.

Colonel Arthur Pole Penton, R.A.

Staff-officer to the Commander of the N.Z. Forces.

Major Wm. Roberts Napier Mudooks, N.Z.M. (Lieutenant R.A.)
 Clerk—T. F. Grey

HARBOUR DEFENCE.

Chief Engineer—W. H. Hales

Defence Store Department.

Storekeeper—Capt. S. C. Anderson.
 Assistant Storekeeper—T. H. Sewell
 Clerk—J. O'Sullivan

NEW ZEALAND PERMANENT MILITIA.

No. 1 Service Coy.

Major W. B. Messenger
 Captain H. C. Morrison
 Captain J. Coleman
 Lieutenant J. E. Hume

Inspectors of Submarine Mining Establishment.

Captain J. Falconer
 Captain William Coyle

No. 2 Service Coy.

Captain J. Falconer
 Captain William Coyle

Quartermaster, Permanent Militia.

Captain S. C. Anderson

Surgeon, Permanent Militia (Wellington).

John Teare, M.B.

Surgeon, Permanent Militia (Auckland).

John Wilkins, M.R.C.S.E.

Honorary Surgeon, Permanent Militia.

Patrick J. O'Neill O'Carroll

Honorary Chaplain, Lyttellon Detachment Permanent Militia.

The Rev. E. E. Chambers

Honorary Chaplain, Wellington Detachment Permanent Militia.

The Rev. W. C. Waters, M.A.

Officers Commanding Militia and Volunteer Districts, and Adjutants.

Auckland — (Temporary) Lieut.-Colonel Joseph Henry Banks, N.Z.M. (late Major H.M. 7th Dragoon Guards, &c.). Acting Adjutant: Captain John Grant, N.Z. Vols.

Wellington — Lieut.-Colonel Stuart Newall, N.Z.M.

Canterbury — Lieut.-Colonel Henry Gordon, N.Z.M., late H.M. 44th Foot

North Otago — V.D. Major Alfred Headland

South Otago — Lieut.-Colonel William Holden Webb, N.Z.M., late H.M. 109th Foot

Southland —

Nelson — V.D. Lieut.-Colonel Albert Pitt, N.Z.M. Adjutant: Wm. S. Littlejohn (Captain, Nelson College Cadets)

DEPARTMENT OF LANDS AND SURVEY.

HEAD OFFICE.

Minister of Lands — Hon. John McKenzie
 Surveyor-General and Secretary for Crown Lands — S. Percy Smith, F.R.G.S.
 Assistant Surveyor-General and Under-Secretary for Crown Lands — Alexander Barron

Chief Draughtsman — F. W. Flanagan

Chief Clerk — W. S. Short

Chief Accountant — H. J. Knowles

Auditor of Land Revenue — W. G. Runcie

Superintendent of Village-settlements — J. E. March

AUCKLAND DISTRICT.

Chief Surveyor and Commissioner of Crown Lands — G. J. Mueller

District Surveyors — L. Cussen, J. Baber, jun., G. A. Martin, A. H. Vickerman, H. D. M. Haszard

Assistant Surveyors — T. K. Thompson, R. S. Galbraith

Road Surveyors — C. W. Hursthouse, A. B. Wright, R. H. Reaney

Chief Draughtsman — W. C. Kensington
 Receiver of Land Revenue — T. M. Taylor

HAWKE'S BAY DISTRICT.

Chief Surveyor and Commissioner of Crown Lands — E. C. Gold-Smith (also District Land Officer, Gisborne)

District Surveyors — L. Smith, James Hay, J. W. Wheeler

Assistant Surveyor — J. Mouat

Chief Draughtsman — F. Simpson

Receiver of Land Revenue — F. Bull

TARANAKI DISTRICT.

Chief Surveyor and Commissioner of Crown Lands — J. Strauchon

District Surveyors — H. M. Skeet, G. H. Bullard

Assistant Surveyors — J. F. Frith, W. T. Morpeth

Road Surveyor — G. F. Robinson

Chief Draughtsman — F. E. Clarke

Receiver of Land Revenue — G. P. Doile

WELLINGTON DISTRICT.

Chief Surveyor and Commissioner of Crown Lands — J. W. A. Marchant

District Surveyors — J. D. Climie, F. A. Thompson, H. J. Lowe

Assistant Surveyors — P. A. Dalziel, J. McKay, J. G. Littlejohn, H. Maitland

Road Surveyors—G. T. Murray, A. C. Turner
 Chief Draughtsman—J. Mackenzie
 Receiver of Land Revenue (Acting)—T. G. Waite

NELSON DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—T. Humphries
 District Surveyors—J. A. Montgomerie, J. Snodgrass, R. T. Sadd
 Assistant Surveyors—J. D. Thomson, D. Innes Barron
 Chief Draughtsman—H. Trent
 Receiver of Land Revenue—J. T. Catley
 Caretaker, Hanmer Springs—J. Rogers
 Manager, Hanmer Springs Sanatorium—D. McDonald

MARLBOROUGH DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—C. W. Adams
 District Surveyors—F. S. Smith, D. W. Gillies
 Assistant Surveyor—E. W. Buckeridge
 Chief Draughtsman and Receiver of Land Revenue—G. Robinson

WESTLAND DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—W. G. Murray
 Assistant Surveyor—W. Wilson
 Road Surveyor—F. B. Wither
 Chief Draughtsman and Receiver of Land Revenue—G. J. Roberts

CANTERBURY DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—S. Weetman
 District Surveyors—T. N. Broderick, G. H. M. McClure, L. O. Mathias
 Chief Draughtsman—C. B. Shanks
 Receiver of Land Revenue—A. A. McNab

OTAGO DISTRICT.

Commissioner of Crown Lands—J. P. Maitland
 Chief Surveyor—John Hay
 District Surveyors—J. Langmuir, E. H. Wilmot, D. M. Calder
 Assistant Surveyors—W. D. R. McCurdie, W. T. Neill
 Chief Draughtsman—S. Thompson
 Receiver of Land Revenue—G. A. Reade

SOUTHLAND DISTRICT.

Chief Surveyor and Commissioner of Crown Lands—David Barron
 Assistant Surveyor—A. Hodgkinson
 Chief Draughtsman—J. G. Clare
 Receiver of Land Revenue—H. L. Welch

LAND FOR SETTLEMENTS BRANCH.

Land Purchase Inspector—James McKerrow, F.A.S.

MEMBERS OF LAND BOARDS.

Auckland—G. Mueller, R. Thompson, B. Harris, D. Lundon, J. Renshaw
 Hawke's Bay—E. C. Gold-Smith, C. Hall, T. Hyde, R. R. Groom, G. Mathewson
 Taranaki—J. Strauchon, T. Kelly, C. K. Stock, J. Heslop, H. J. C. Coutts
 Wellington—J. W. A. Marchant, A. W. Hogg, J. Stevens, H. A. Field, A. Reese
 Nelson—Thomas Humphries, J. Kerr, D. Bate, F. Hamilton, O. Lynch
 Marlborough—C. W. Adams, C. H. Mills, J. Redwood, J. A. Parsons
 Westland—W. G. Murray, A. Matheson, J. Chesney, J. S. Lang
 Canterbury—S. Weetman, A. C. Pringle, R. Meredith, D. McMillan, J. McLachlan
 Otago—J. P. Maitland, H. H. Kirkpatrick, H. Clark, J. Duncan, W. Dallas
 Southland—David Barron, A. Kinross, J. McIntyre, A. Baldey, D. King

BOARD OF EXAMINERS OF SURVEYORS.

The Surveyor-General
 The Assistant Surveyor-General
 The Chief Surveyor for the Land District of Wellington
 The Chief Surveyor for the Land District of Hawke's Bay
 The Chief Surveyor for the Land District of Nelson
 The Chief Surveyor for the Land District of Canterbury
 Secretary to Board—T. M. Grant
 Head Office—Wellington

DEPARTMENT OF AGRICULTURE.

CHIEF OFFICE.

Minister in Charge—Hon. J. McKenzie
 Secretary of Agriculture and Chief Inspector of Stock—John D. Ritchie
 Assistant Chief Inspector of Stock—T. A. Fraser
 Chief Clerk—Richard Evatt
 Clerk and Biologist—T. W. Kirk, F.L.S.
 Assistant Entomologist at Auckland—Thomas Broun, F.E.S.
 Veterinary Surgeons—J. A. Gilruth, M.R.C.V.S.; Archibald Park, M.R.C.V.S.; C. J. Reakes, M.R.C.V.S.

Produce Commissioner, London—H. C. Cameron
 Dairy Commissioner—(office vacant)
 Dairy Instructors and Graders—James Sawers, J. T. Lang, C. W. Sorensen, A. A. Thornton, R. W. D. Robertson, T. Marshall, A. Büsck
 Pomologists—W. J. Palmer, J. C. Blackmore, S. I. Fitch
 Poultry Expert—(office vacant)

INSPECTORS OF STOCK.

Auckland—E. Clifton (in charge), F. Schaw, Auckland; G. S. Cooke, Whangarei; D. Ross, Hamilton; H. E. Collett, Whakatane
 Napier—J. Drummond (in charge), H. Oldham, Napier; C. Thomson, Gisborne; J. Harvey, Woodville
 Wairarapa—W. Miller, Masterton (in charge); D. Kerr, Carterton
 Wellington—W. R. Rutherford, Wellington
 West Coast—A. K. Blundell (in charge), Wanganui; F. E. Orbell, Hawera; H. G. J. Hull, Palmerston North
 Nelson—H. M. Campbell, Nelson (in charge); J. A. Easton, Foxhill
 Marlborough—John Moore, Blenheim
 Westland—V. A. Huddleston, Hokitika
 Canterbury-Kaikoura—R. F. Holderness (in charge), E. A. Dowden, Christchurch; C. A. Cunningham, Rangiora; J. C. Huddleston, Rotherham; Blair Fullerton, Ashburton
 South Canterbury—G. H. Jenkinson, Timaru; J. W. Deem, Fairlie; —, Kurov
 Otago—J. E. Thomson, Dunedin; J. S. Nichol, Outram; J. C. Miller, Oamaru; R. Bree, Milton; J. L. Bruce, Balclutha; A. Ironside, Clyde; R. I. Gossage, Naseby; C. C. Empson, Lawrence; James Duncan, Palmerston; E. A. Field, Gore; H. T. Turner, Invercargill; J. W. Raymond, Bluff

VALUATION DEPARTMENT.

Valuer General—John McGowan
 Deputy—G. F. C. Campbell
 Chief Clerk—F. J. M. D. Walmsley
 Clerks—J. P. Dugdale, H. L. Wiggins, J. P. Thomson, A. W. Knowles, T. W. Foote, H. O'Rourke, J. T. Bolt
 Draughtsman—H. H. Seed
 Cadets—E. Panting, C. E. Dowland

Supervising Valuers—W. Duncan, Auckland; A. Barns, Wanganui; T. K. Macdonald, Wellington; A. P. O'Callaghan, Canterbury; A. McKerrrow, Otago; H. Carswell, Southland
 District Valuers—J. I. Wilson, jun., Whangarei; W. H. Wallis, Hamilton; W. Garrett, Paeroa; I. S. Simson, Gisborne; John Fraser, Hastings; Samuel Hill, New Plymouth; Robert Gardner, Wellington; J. F. Heckler, Mangamahoe; Edward Kenny, Nelson; James Webster, Hokitika; David Dick, John Whitelaw, Albert Freeman, Christchurch; Andrew Allan, Timaru; E. A. Atkinson, Oamaru; W. L. Craig, Palmerston; A. J. Burns, Dunedin; W. Dallas, Balclutha; James George, Queenstown; Thomas Green, Gore; A. Macpherson, Invercargill
 Clerks—A. Clothier, Dunedin; E. W. Watson, Auckland; T. Oswin, Invercargill; J. M. Wheeler, Christchurch
 Cadet—A. Anderson, Dunedin

GOVERNMENT LIFE INSURANCE DEPARTMENT.

Commissioner—J. H. Richardson, F.F.A., F.I.A.V.
 Assistant Commissioner—D. M. Luckie, F.S.S.
 Actuary—Morris Fox
 Secretary—W. B. Hudson
 Chief Medical Officer—T. Cahill, M.D.
 Accountant—G. W. Barltrop
 Assistant Actuary—G. Leslie
 Chief Clerk—R. C. Niven
 Office Examiner—G. A. Kennedy
 Second Assistant Actuary—P. Muter
 Clerks—J. W. Kinniburgh, D. J. McG. McKenzie, W. S. Smith, A. H. Hamerton, F. B. Bolt, C. E. Galwey, T. L. Barker, H. Spackman, A. L. B. Jordan, G. Webb, C. J. Alexander, H. S. Manning, A. Avery, F. K. Kelling, C. W. Palmer, J. B. Young, G. C. Fache, R. T. Smith, A. W. G. Burnes, F. W. Beale, J. A. Thomson, A. de Castro, F. M. Leckie, R. P. Hood, G. A. N. Campbell, W. H. Woon, S. P. Hawthorne, A. T. Traversi, J. G. Reid, A. E. Jackson, C. H. E. Stichbury, J. R. Samson, H. H. Henderson, R. Fullerton, J. S. Butler, R. S. Latta,

H. Davies, T. Fouhy, J. Lindsay,
J. R. Fraser, G. E. Sadd, J. T. Gunn,
T. Dimunt
Chief Messenger—W. Archer

AUCKLAND AGENCY.

District Manager—W. J. Speight
Chief Clerk—J. K. Blenkhorn
Clerk—J. B. Watkis

NAPIER AGENCY.

Resident Agent—J. H. Dean

WANGANUI AGENCY.

Resident Agent—J. Fairburn

WELLINGTON AGENCY.

District Manager and Supervisor of New
Business—G. Robertson
Chief Clerk—M. J. K. Heywood
Clerks—W. C. Marchant and A. M.
McDonald

NELSON AGENCY.

Resident Agent—A. P. Burnes

BLENNHEIM AGENCY.

Agency Clerk—C. H. Ralph

GREYMOUTH AGENCY.

Resident Agent—A. E. Allison

CHRISTCHURCH AGENCY.

District Manager—J. C. Prudhoe
Chief Clerk—J. W. H. Wood
Clerks—H. Rose and G. J. Robertson.

TIMARU AGENCY.

Agency Clerk—S. T. Wickstead

OMARU AGENCY.

Resident Agent—O. H. Pinel

DUNEDIN AGENCY.

District Manager—R. S. McGowan
Chief Clerk—G. Crichton
Clerks—A. Marryatt and G. S. Nicoll

INVERCARGILL AGENCY.

Agency Clerk—J. Findlay
Clerk—A. H. Johnstone

PUBLIC TRUST OFFICE.

Public Trustee—J. C. Martin
Deputy Public Trustee—A. A. Duncan
Solicitor—F. J. Wilson
Chief Clerk—T. S. Ronaldson
Accountant—M. C. Barnett
Clerks—T. Stephens, M. Townsend,
P. Fair, C. Zachariah, P. Hervey,
E. C. Reeves, W. A. Fordham, H.
Oswin, A. Purdie, G. A. Smyth, A. J.
Cross, T. R. Saywell, N. Levien, W.
McGowan, M. E. Harrap, S. Dimant,
E. A. Smythe, W. Barr, E. O. Hales.
C. Morris, S. W. Smith, C. A. Gold-
smith, H. Masters, W. Campbell, R.
Price
District Agent, Christchurch—J. J. M.
Hamilton; Clerk, J. Allen
District Agent, Auckland—E. F. Warren;
Clerk, E. Holloway; Cadet, K. N. H.
Brownie
District Agent, Dunedin—F. H. Morice;
Typist, F. Naphtali; Cadet, J. B. Jack
District Agent, Greymouth—T. D. Ken-
dall
District Agent, Napier—E. P. Watkis
West Coast Settlement Reserves Agent
—Thomas W. Fisher; Clerk, E. G.
Hyde

ADVANCES TO SETTLERS
OFFICE.

Superintendent—John McGowan
Deputy Superintendent—G. F. C. Camp-
bell
Chief Clerk—F. J. M. D. Walmsley
Inspecting Accountant—P. Heyes
Clerks—W. Waddel, E. McFadden, W.
M. Smith, T. C. Somers, W. Hinch-
cliffe, I. Carley, A. A. Pritchard, M. J.
Crombie, C. Wilson, H. Redmond, C.
B. Collins, D. Fraser
Chief Valuers—W. Duncan, Auckland;
A. Barns, Wanganui; T. Kennedy
Macdonald, Wellington; A. P. O'Cal-
laghan, Christchurch; A. McKerrrow,
Dunedin; H. Carswell, Invercargill
Clerks at Agencies—A. Miller, J.
Ferguson, F. B. Robertson

CADETS IN GOVERNMENT SERVICE TO BE VOLUNTEERS.

Cadets in the Civil Service are required, after arriving at the age of eighteen years, to serve for three years in a Volunteer corps. Heads of departments are required to notify the Under Secretary for Defence of the appointment of all cadets coming within this regulation.

ECCLESIASTICAL.

THERE is no State Church in the colony, nor is State aid given to any form of religion. Government in the early days set aside certain lands as endowments for various religious bodies, but nothing of the kind has been done for many years past.

CHURCH OF THE PROVINCE OF NEW ZEALAND, COMMONLY CALLED THE "CHURCH OF ENGLAND."

Bishops.

The Most Rev. William Garden Cowie, D.D., Auckland; consecrated 1869 (Primate).

The Right Rev. William Leonard Williams, B.A., Waiapu; consecrated 1895.

The Right Rev. Frederic Wallis, D.D., Wellington; consecrated 1895.

The Right Rev. Charles Oliver Mules, M.A., Nelson; consecrated 1892.

The Right Rev. Churchill Julius, D.D., Christchurch; consecrated 1890.

The Right Rev. Samuel Tarratt Nevill, D.D., Dunedin; consecrated 1871.

The Right Rev. Cecil Wilson, M.A., Melanesia; consecrated 1894.

ROMAN CATHOLIC CHURCH.

Archbishop.

The Most Rev. Francis Redwood, S.M., D.D., Archbishop and Metropolitan, Wellington; consecrated 1874.

Bishops.

The Right Rev. George Michael Lenihan, D.D., Auckland; consecrated 1896.

The Right Rev. John Joseph Grimes, S.M., D.D., Christchurch; consecrated 1887.

The Right Rev. Michael Verdon, D.D., Dunedin; consecrated 1896.

ANNUAL MEETINGS AND OFFICERS.

The principal present heads or officers of the various churches, and the places and times of holding the annual or periodical assemblies or meetings, are as follow:—

Church of England.—For Church purposes, the colony is divided into six dioceses—viz., Auckland, Waiapu, Wellington, Nelson, Christchurch, and Dunedin. The General Synod meets every third year in one or other of the dioceses.—President, the Bishop of Auckland, Primate; Secretary, Rev. J. P. Kempthorne, Nelson; Lay Secretary, H. J. H. Blow, Esq., Wellington. The Diocesan

Synods meet once a year, under the presidency of the Bishop of the diocese. The next General Synod will be held in Napier, in January, 1901.

Roman Catholic Church.—The diocese of Wellington, established in 1848, was in 1887 created the metropolitan see. There are three suffragan dioceses—Auckland, Christchurch, and Dunedin. A Retreat is held annually in each of the four dioceses, at the end of which a Synod is held, presided over by the Bishop, and at which all his clergy attend.

Presbyterian Church of New Zealand.—The Assembly meets annually, in February, at Auckland, Wellington, and Christchurch, in succession. Moderator, the Right Rev. Gordon Webster, M.A.; Clerk and Treasurer, Rev. David Sidey, D.D., Napier.

Presbyterian Church of Otago and Southland.—The Synod meets annually in October at Dunedin. Moderator, Rev. William Will, East Taieri; Clerk, Rev. W. Bannerman, Roslyn, Dunedin; Church Factor, Mr. Frederick Smith, High Street, Dunedin. Theological Professors, Rev. John Dunlop, M.A., D.D., and Rev. Michael Watt, M.A., D.D. Mr. James Dunbar, Tutor in Greek.

Wesleyan Methodist Church.—The annual Conference meets on or about the last Tuesday in February, the exact date being determined by the President, who holds office for one year. Each Conference determines where the next one shall assemble. President (1898–99), Rev. W. G. Parsonson, Napier; Secretary, Rev. D. J. Murray, Lyttelton. The next Conference is to meet in Durham Street Church, Christchurch.

Primitive Methodists.—A Conference takes place every January. The next is to be held in Christchurch, commencing 12th January, 1899. The Executive Committee of the Church sits in Auckland. The Conference officials for the present year are: President, Rev. John Dawson, Webb Street, Wellington; Secretary, Rev. F. W. Boys, Thames; Secretary of Executive Committee and Treasurer of Mission Funds, Mr. D. Goldie, Hill Street, Auckland.

Baptist Union of New Zealand.—President, Arthur Hoby, Esq., L.D.S., Wellington; Treasurer, Mr. A. Chidgey, Christchurch; Secretary, Rev. A. H. Collins, Auckland. The Union comprises 31 churches, 3,185 members, 5,055 scholars in the Sunday schools, with 583 teachers. There are also 89 local preachers, and 22 preaching-stations. This religious body has a newspaper of its own—the *New Zealand Baptist*—published in Christchurch; Editor, Rev. Arthur Dewdney, Oamaru.

Congregational Union of New Zealand.—The annual meetings are held during the second week of February, at such place as may be decided on by vote of the Council. Chairman for 1898, Mr. George Fowlds, Auckland; Secretary, Rev. Frederic Warner, Auckland; Treasurer, Mr. W. H. Lyon, Auckland; Registrar, Mr. F. Meadowcroft, Wellington; Head Office, Auckland. In 1899 the meeting of the Council will be held at Dunedin. The Committee of the Union meets in Auckland on the second Tuesday of each month.

Hebrews.—Ministers: Rev. S. A. Goldstein, Auckland; Rev. H. van Staveren, Wellington; Mr. Alexander Singer, Hokitika. Annual meetings of the general Congregations are usually held at these places during the month of Elul (about the end of August).

JUDICIAL.

THE Minister of Justice is charged with all matters relating to the Supreme, District, Magistrates', and Wardens' Courts, Crown Law Office, Coroners, patents, designs, and trade-marks, bankruptcy, criminal prosecutions in the higher Courts, Justices of the Peace, Licensing Committees, and prisons. The Supreme Court is presided over by a Chief Justice and four Puisne Judges. The Chief Justice and one Puisne Judge reside in Wellington, one Judge resides at Auckland, one at Christchurch, and one at Dunedin. They all go on circuit periodically within their districts. Circuit sittings of the Supreme Court are held at fourteen places. There are three District Court Judges, holding Courts at seventeen towns. At nearly every town in which sittings of the Supreme or District Courts are held there is a Crown Prosecutor, paid by fees, and a Sheriff. In the District Courts the Crown Prosecutor exercises the function of a Grand Jury.

The Magistrates' Courts are presided over by twenty-nine Stipendiary Magistrates, and Courts are held daily in the principal centres, and at convenient times in the smaller towns. The jurisdiction of these Courts may be "ordinary" (which includes, practically speaking, all claims not exceeding £100 in value, except claims for damages for false imprisonment or illegal arrest, malicious prosecution, libel, slander, seduction, or breach of promise of marriage); "extended," under which money-claims to an amount not exceeding £200 may be entertained; and "special," which, while including all the powers of the "extended" jurisdiction, enables the Court to deal also with partnerships, injunctions, and other equity suits. At present twenty-seven of the Stipendiary Magistrates exercise the "extended" jurisdiction, but none the "special." When, however, owing to increase of settlement, or pressure of business in the Supreme Court, necessity arises, the power to exercise either the extended or special jurisdiction can be conferred by Order in Council on any Court. The Magistrates exercising the special jurisdiction must be barristers or solicitors.

The procedure of the Courts is remarkably simple, no pleadings being required beyond a statement by the plaintiff sufficient to inform the defendant of the nature and extent of the claim. Due provision is made for counter-claims, and the joinder at any stage of the proceedings of all necessary parties, so that all questions arising in connection with the subject-matter before the Court may be finally dealt with at once. Appeal to the Supreme Court is allowed on points of law, and of law only, in cases where not more

than £50 is concerned, and on points of either law or fact in cases above that amount. Generally, the procedure is so simple and elastic that in the majority of cases heard it is not necessary to retain the services of a professional man, but, where solicitors are employed, the Court in its judgment settles the costs to be paid according to a prescribed scale. In places where there is not a Magistrate's Court Justices of the Peace have power to hold a Court and deal with claims not exceeding £20 in value, giving judgment "according to equity and good conscience."

In criminal cases the Supreme or District Court may reserve any question of law for the Court of Appeal; and, if the Court refuse to reserve a question, the Attorney-General may give leave to move the Court of Appeal for leave to appeal.

The Supreme Court may give leave to any person convicted before it to apply to the Court of Appeal for a new trial on the ground that the verdict was against the weight of evidence, and the Court of Appeal may direct a new trial. In cases where the clemency of the Crown is sought, the Governor in Council, if he entertains a doubt whether the convicted person ought to have been convicted, may direct a new trial at such time and before such Court as he may think proper.

Fourteen of the Magistrates are also Wardens, holding Wardens' Courts in the various goldfields. There are forty-eight civilian Clerks of Courts, and eighty-six who are also police sergeants or constables.

Every Stipendiary Magistrate holds the office of Coroner, and is paid 10s. 6d. for each inquest, in addition to mileage at 1s. per mile. Besides these, there are thirty-two Coroners, who are paid £1 1s. for each inquest, and mileage.

Bankrupt estates are administered by four Official Assignees, stationed at Auckland, Wellington, Christchurch, and Dunedin, respectively; and by twenty Deputy Assignees, resident at as many other towns. The Supreme and District Courts have jurisdiction in bankruptcy proceedings, and the Governor has power to confer similar jurisdiction in small estates on any of the Magistrates' Courts, but as yet this has not been found necessary.

The Commission of the Peace contains about seventeen hundred names, and additions are frequently made. A rota is kept in every borough and town of Justices residing within three miles of the Courthouse, and the Justices are required either to attend the Court when summoned or to furnish a satisfactory excuse; failing this, they are struck off the Commission. Medical practitioners, Civil servants, and some others, are exempt from such attendance.

Witnesses in Criminal Courts are paid 6s. per diem, and in addition 4s. for every night they are absent from home. Witnesses in civil cases are paid variously from 6s. to £1 1s. a day, according to their condition in life.

Intestate estates in New Zealand are dealt with by the Public Trust Office.

Jury lists are compiled annually by the police, revised by the Bench of Justices, and forwarded to the Sheriffs, who prepare from them special and common jury panels.

DEFENCES, MILITARY AND NAVAL.

THE defence forces consist of the Permanent Militia (Artillery and Submarine Mining Corps), and the auxiliary forces of Volunteers (Cavalry, Mounted Rifles, Naval Artillery, Field Artillery, Engineers, and Rifle companies). There is a Commander of the Forces, who is an Imperial officer, and he has a Staff officer who is also an Imperial officer. To the Under-Secretary for Defence all questions of expenditure are referred; while the Chief Engineer of the Public Works Department has charge of the defence-works.

MILITIA AND VOLUNTEER DISTRICTS.

The two islands (North and Middle) are divided into seven districts, each commanded by a Field Officer of Militia or Volunteers, with a staff of drill-sergeants.

PERMANENT MILITIA (ARTILLERY).

This Force is divided into four companies, which are stationed at Auckland, Wellington (head-quarters), Lyttelton, and Dunedin; their principal duties are to look after and take charge of all guns, stores, ammunition, and munitions of war at these four centres. The Force consists of one major, two captains, one subaltern, with an establishment of 213 of all ranks.

PERMANENT MILITIA (SUBMARINE MINERS).

This branch, like the Artillery, is divided amongst the four centres for submarine mining and torpedo work, and consists of two captains, with a total establishment of 76 of all ranks. They have charge of four torpedo-boats and four steam-launches, and of all submarine mining and torpedo stores. They are likewise employed in blowing up rocks and wrecks, and generally improving harbours.

VOLUNTEERS.—CAVALRY.

There are three troops of Cavalry (one in the North Island and two in the Middle Island). These corps are kept in a state of efficiency by going into camp for six days' training annually. The total strength of the three troops is 168 of all ranks.

VOLUNTEERS.—MOUNTED RIFLES.

There are nine corps of Mounted Rifles, five in the North Island and four in the Middle Island, with a total strength of 564 of all ranks. These corps go into camp for an annual training of six days.

VOLUNTEERS.—NAVAL ARTILLERY.

There are twelve batteries of this branch of the service (eight in the North Island and four in the Middle Island), having a total strength of 798 of all ranks. These corps are divided into port and starboard watches at the four centres; some of these corps are trained to assist the Permanent Artillery in working heavy ordnance, whilst others act as auxiliaries to the Submarine Miners in submarine mining and torpedo work. These corps have cutters and other boats provided and kept up for them, and are instructed in rowing, knotting, splicing, signalling, and suchlike duties.

VOLUNTEERS.—GARRISON ARTILLERY.

There is one corps of Garrison Artillery in the Middle Island, with a strength of 54 of all ranks.

VOLUNTEERS.—FIELD ARTILLERY.

There are seven batteries of Field Artillery (three in the North Island and four in the Middle Island), with a total of 424 of all ranks. They are armed with 6-, 9-, and 12-pounder Armstrong breech-loading rifled guns and 6-pounder Nordenfeldts, on field-carriages.

VOLUNTEERS.—ENGINEERS.

This branch consists of two corps, with a total of 141 of all ranks, both in the Middle Island. Besides carrying rifles they are provided with entrenching tools and all appliances for blowing up bridges or laying land-mines.

VOLUNTEERS.—RIFLE CORPS.

In this branch of the service there are fifty-five corps (besides one honorary reserve, 47 strong), nineteen being in the North Island and thirty-six in the Middle Island, with a total strength of 3,380 of all ranks, including garrison bands.

VOLUNTEERS.—CADET CORPS.

There is a force of thirty-nine cadet corps—viz., thirteen in the North Island and twenty-six in the Middle Island, with a total strength of 2,155 of all ranks.

ORDNANCE, ARMS, ETC.

The armament at the forts of the four centres consists of 8in. 13-ton breech-loading rifled Elswick Ordnance Company's guns, with 6in. 5-ton, of like pattern, all mounted on hydro-pneumatic disappearing carriages; 7in. 7-ton muzzle-loading rifled guns, on traversing slides; 64-pounder rifled muzzle-loading converted 71cwt. guns, on garrison standing carriages and traversing slides; 64-pounder rifled muzzle-loading 64cwt. guns on traversing slides; 6-pounder quick-firing Nordenfeldts, on garrison pillar-mountings, and field-carriages; Hotchkiss quick-firing guns and Maxim machine guns. The Volunteer Field Artillery are armed with 6-, 9-, and 12-pounder Armstrong breech-loading rifled guns, and 6-pounder Norden-

feldts, and the whole of the adult portion of the Force have carbines or rifles of Martini-Henry pattern; Cadets being armed with Snider carbines.

There is a large stock of Whitehead torpedoes, contact- and ground-mines, in charge of the Submarine Mining Companies, as well as four Thorneycroft torpedo-boats.

ENROLMENT, ETC.

Members of the Permanent Militia are enrolled to serve until lawfully discharged, and Volunteers for one year. The Permanent Militia is principally recruited from men who have one year's efficient service in the Volunteers; and after passing the gunnery and other courses and serving three years in the Permanent Militia the men are eligible for transfer to police and prison services.

INSTRUCTORS.

The Instructors for Permanent Artillery and Torpedo Corps are obtained from the School of Gunnery at Shoeburyness, and from the Royal Engineers, under a three years' engagement, on completion of which they return to their regiments.

CAPITATION.

An annual capitation of £2 10s. is granted to each efficient Volunteer, and a sum not exceeding £20 to each efficient cadet corps. One hundred and fifty rounds of Martini-Henry ball-cartridge are issued each year free to every adult Volunteer, and twenty-five rounds of Snider ball to each cadet over thirteen years of age.

ADMINISTRATION.

The defence forces of New Zealand are administered under "The Defence Act, 1886."

EXPENDITURE ON THE ESTABLISHMENT AND MAINTENANCE OF DEFENCES FROM 1884-85 TO 1897-98.

Year.	Military Expenditure.	Harbour Defences.	Total.
	£	£	£
1884-85	90,816	9,601	100,417
1885-86	91,242	127,167	218,409
1886-87	89,927	139,429	229,356
1887-88	122,061	73,458	195,519
1888-89	53,591	50,089	103,680
1889-90	63,614	15,752	79,366
1890-91	80,891	10,798	91,689
1891-92	75,343	7,644	82,987
1892-93	59,808	11,205	71,013
1893-94	56,570	3,976	60,546
1894-95	62,181	2,495	64,676
1895-96	84,981	3,814	88,295
1896-97	82,443	4,690	87,133
1897-98	83,004	2,525	85,529

DÉPÔTS FOR SHIPWRECKED MARINERS.

As eleven of the crew of the barque "Spirit of the Dawn," which was wrecked on Antipodes Island on the 4th September, 1893, remained on the island for eighty-eight days without becoming aware of the existence of the dépôt of provisions and clothing for castaways which is established there, attention may usefully be drawn to the fact that such dépôts are maintained by the New Zealand Government on that island, and on the Auckland, Campbell, Bounty, Kermadec, and Snares Islands.

The following are the positions of the dépôts :—

Auckland Islands.—A dépôt is placed on the south side of Erebus Cove, Port Ross, and another in Camp Cove, Carnley Harbour, and a third at the head of Norman Inlet. One boat is placed on the north-west end of Adams Island, another on Enderby Island, and another on Rose Island.

Campbell Island.—A dépôt is erected in Tucker Cove, Perseverance Harbour, and a boat has been placed at the head of that harbour.

Antipodes Islands.—A dépôt is placed abreast the anchorage on the north-east side of the principal island.

Bounty Islands.—There is a dépôt on the principal island.

Snares Island.—A dépôt has been established on this island in Boat Harbour.

Kermadec Islands.—A dépôt is established on Macaulay Island, near Lava Cascade, on the north-east end of the island, and another on Curtis Island, at the head of Macdonald Cove, on the north-western end of the island.

Finger-posts to indicate the direction of the dépôts have also been put up.

The Government steamer visits the Auckland, Campbell, Antipodes, Bounty, and Snares Islands twice a year, and the Kermadec Islands once a year.

GRAVING DOCKS AND PATENT SLIPS.

VESSELS visiting New Zealand, and requiring docking or repairs, will find ample accommodation at the principal ports of the colony.

There are in New Zealand four graving-docks ; two of these are situated in Auckland, one at Lyttelton, and one at Port Chalmers.

AUCKLAND DOCKS.

The Auckland Docks are the property of the Auckland Harbour Board, and cost, with machinery, appliances, &c., £207,000. The dimensions of the docks at Auckland are as follow :—

	Calliope Dock.	Auckland Dock.
Length over all	525 feet.	312 feet.
Length on floor	500 "	300 "
Breadth over all	110 "	65 "
Breadth on floor	40 "	42 "
Breadth at entrance	80 "	43 "
Depth of water on sill at high water		
ordinary spring tides)	33 "	13½ "

The following is the scale of charges for the use of the Auckland and Calliope Graving Docks and appliances:—

AUCKLAND GRAVING DOCK.		£	s.	d.
Entrance fee	..	1	1	0
For every vessel of 100 tons (gross register), or under, per day	..	4	0	0
For every vessel over 100 tons (gross register), for first 100 tons, per day	..	4	0	0
For every additional ton (gross register), per day	..	0	0	2
For two or more vessels docking at the same time, the tonnage of which together does not exceed 100 tons (gross register), per day each	..	2	10	0
For shores cut in docking or hanging the vessel, there must be paid, according to injury done, such amount as may be fixed by the Dock-master.				
For use of steam-kiln, 10s. per day.				
For use of pitch furnace, 10s. per day.				

CALLIOPE GRAVING DOCK.		£	s.	d.
Entrance fee	..	5	5	0
For all vessels up to 300 tons (gross register)	..	20	0	0
For all vessels 301 to 400 tons	..	22	10	0
" 401 to 500 tons	..	25	0	0
" 501 to 600 tons	..	27	10	0
" 601 to 700 tons	..	30	0	0
" 701 to 800 tons	..	32	10	0
" 801 to 900 tons	..	35	0	0
" 901 to 1,000 tons	..	37	10	0
" 1,001 to 1,100 tons	..	40	0	0
" 1,101 to 1,200 tons	..	45	0	0
" 1,201 to 1,300 tons	..	50	0	0
" 1,301 to 1,500 tons	..	55	0	0
" 1,501 to 2,000 tons	..	60	0	0
" 2,001 to 3,000 tons	..	65	0	0
" 3,001 to 4,000 tons	..	70	0	0
" 4,001 to 5,000 tons	..	75	0	0

The foregoing charges are for three days or less. After the third day in dock the following rates are charged:—

For all vessels up to 500 tons (gross register)	4d. per ton a day.
For all vessels of 501 tons to 1,000 tons	3d. "
For all vessels over 1,001 tons up to 2,000 tons	2½d. "
For all vessels over 2,001 tons and upwards	2d. "

Twenty per cent. reduction on Calliope Dock rates is allowed when two or three vessels can arrange to dock on the same tide, and remain in dock the same number of hours; but such reduction is not allowed if any of the Auckland Harbour Board's vessels are docked at the same time as another vessel.

For shores cut in docking or hanging the vessel, there is to be paid, according to injury done, such amount as may be fixed by the Dockmaster.

During the year 1897, 113 vessels of various descriptions, with a total of 35,647 tons, made use of the Auckland Graving Dock, occupying it in all 210 days 6 hours, for repairs or painting.

In Calliope Dock 15 vessels were docked, viz.: 2 warships, 10 merchant steamers, 1 sailing-vessel, and 1 dredge (twice), of an aggregate tonnage of 21,240, occupying the dock for 108 days 8 hours.

Dock dues for the year amounted to £2,505 10s..

LYTTLETON DOCK AND PATENT SLIP.

The graving-dock at Lyttelton, which is the property of the Harbour Board, is capable of docking a first-class ironclad, or any of the large ocean steamers except the "Gothic" now running to the colony. Its general dimensions are: Length over all, 503ft.; length on floor, 450ft.; breadth over all, 82ft.; breadth on floor, 46ft.; breadth at entrance, 62ft.; breadth where ship's bilge would be, on 6ft. blocks, 55ft.; depth of water on sill at high-water springs, 23ft.

The scale of charges for the use of the dock and pumping machinery are as follow:—

	£	s.	d.
For all vessels up to 300 tons, for four days or less	..	20	0 0
" 301 to 400 tons, "	..	22	10 0
" 401 to 500 tons, "	..	25	0 0
" 501 to 600 tons, "	..	27	10 0
" 601 to 700 tons, "	..	30	0 0
" 701 to 800 tons, "	..	32	10 0
" 801 to 900 tons, "	..	35	0 0
" 901 to 1,000 tons, "	..	37	10 0
" 1,001 to 1,100 tons, "	..	40	0 0
" 1,101 to 1,200 tons, "	..	45	0 0
" 1,201 tons and upwards, "	..	50	0 0

After the fourth day in dock, the following rates are charged:—

For all vessels up to 500 tons	..	4d.	per ton per day.
For all vessels of 501 tons up to 1,000 tons	..	3d.	"
For all vessels over 1,001 tons up to 2,000 tons	..	2½d.	"
" 2,001 tons up to 3,000 tons	..	2½d.	"
" 3,001 tons up to 4,000 tons	..	2½d.	"
" 4,001 tons up to 5,000 tons	..	2d.	"

Twenty per cent. reduction on the above rates is allowed when two or three vessels can arrange to dock on the same tide and remain in dock the same number of hours. Two vessels of 1,000 tons each can be docked at the same time. The 20-per-cent. rebate is not allowed if any of the Lyttelton Harbour Board's vessels are docked at the same time as another vessel. The twenty-four hours constituting the first day of docking commences from the time of the dock being pumped out.

Any vessel belonging to H.M. Navy or any colonial Government, or any commissioned ship belonging to any foreign nation, is admitted into the graving dock without payment of the usual dock dues, but is charged only such sum as is necessary for the reimbursement of actual expenditure of stores, wages, and materials.

There are electric lights, one on each side of the graving-dock; and there is a workshop alongside the dock, and several other engineering works within a short distance of it, where repairs and heavy foundry-work can be done.

The graving dock and machinery cost £105,000. The interest and sinking fund on that sum, at 6½ per cent., amounts to

£6,825 per annum. Since its construction, the dock dues for the fifteen years, ended 31st December, 1897, amounted to £13,598 17s. 6d., and the working expenses to £8,654 5s. 5d., leaving a credit balance for fifteen years, ended 31st December, 1897, of £4,944 12s. 1d.

During the year 1897 twenty-three vessels were docked, the aggregate tonnage being 36,028, and the dock dues amounted to £1,513 18s. For the fifteen years ending 1897 282 vessels were docked.

Alongside the graving dock is a patent slip, with a cradle 150ft. in length, suitable for vessels of 300 tons. It belongs to the Harbour Board.

OTAGO GRAVING DOCK.

The dock at Port Chalmers is vested in the Otago Dock Trust, a body entirely distinct from the Otago Harbour Board. Vessels of large size can be taken in the Otago Dock, as the following measurements will show:—

Length over all	..	..	..	..	..	335 feet.
Length on the floor	..	..	..	..	..	328 "
Breadth over all	..	..	..	..	..	68 "
Breadth on floor	..	..	..	..	..	41 "
Breadth where ship's bilge would be	..	..	..	..	..	43 "
Breadth at dock gates	..	..	..	..	..	50 "
Depth of water on sill at high-water (ordinary spring tides)	..	..	..	..	..	17½ "

Connected with the Otago Dock are a large machine-shop, steam-hammer, and forge, with all the appliances necessary for performing any work that may be required by vessels visiting the port. An 80-ton shear-legs has also been erected for heavy lifts.

There is also a patent slip, used for taking up small vessels.

All vessels using the Otago Graving Dock are liable to dock dues according to the following scale (unless under special contract), revised since the beginning of 1896:—

	£	s.	d.
Vessels under 200 tons, for the first three days, or part of three days	..	..	..
Vessels of 200 tons, and under 800 tons	..	..	..
" 800 tons and upwards	..	..	..
	25	0	0
	30	0	0
	42	10	0

And for every day, or part of a day, after the first three days:—

Vessels under 300 tons	..	8d.	per register ton per day.
" 300 " and under 400 tons	7½d.	"	"
" 400 " " 500 "	7½d.	"	"
" 500 " " 600 "	7½d.	"	"
" 600 " " 700 "	7d.	"	"
" 700 " " 800 "	6¾d.	"	"
" 800 " " 900 "	6½d.	"	"
" 900 " " 1,000 "	6½d.	"	"
" 1,000 tons and upwards	6d.	"	"

During the last twelve months, ending 31st December, 1897, the dock was in use 260 working-days. The number of vessels docked was sixty-eight, having a total registered tonnage of 59,501.

WELLINGTON PATENT SLIP.

The Port of Wellington has no dock; but there is a well-equipped patent slip at Evans Bay, on which vessels of 2,000 tons can be safely hauled up. This slip is the property of a private company, and is in no way connected with the Harbour Board. It is 1,070ft. long, with a cradle 260ft. in length. There is a depth of 32ft. at high water at the outer end of the slip. A dolphin and buoys are laid down for swinging ships in Evans Bay.

The company has convenient workshops, which contain machinery necessary for effecting all ordinary repairs to vessels using the slip.

During the year ending 31st March, 1898, there were 99 vessels of various sizes taken up on the slip for repairs, cleaning, painting, &c., of an aggregate tonnage of 35,200 tons. The charges for taking vessels on the slip and launching them are 1s. per ton on the gross tonnage for the first full twenty-four hours, and 6d. per ton per day afterwards, unless by special agreement.

TIMARU SLIP.

The Timaru slip is capable of taking up a vessel of 200 tons.

NELSON CRADLE.

The Anchor Steamship Company's cradle can take up a vessel of 150 tons.

LIGHTHOUSES.

THE coasts of New Zealand are, considering their extent, fairly well lighted, but there are many places where lights are still required. Additions to the existing lights are made from time to time as funds are available.

There are twenty-eight coastal lights altogether—eight of the first order, fourteen of the second, three of the third, and three of smaller orders.

There has been no special difficulty in the erection of lighthouses in New Zealand, apart from the trouble caused by indifferent landings. There are no lighthouses built in the sea, such as the well-known Eddystone or Bell Rock. That on The Brothers is the only one which it is considered necessary to keep as a rock-station: that is, the keepers are relieved from time to time, three being always at the station and one on shore.

The cost of the erection of the lighthouses is given by the Marine Department as about £173,500 (the Ponui Passage Lighthouse, having been built by the Provincial Government of Auckland, the cost is not given). The annual consumption of oil is about 19,800 gallons; and the cost of maintenance, irrespective of the cost of maintaining the lighthouse steamer, is about £13,000 a year.

Besides the coastal lighthouses, there are harbour-lights at most of the ports of the colony for the guidance of vessels into and out of the ports.

The following table shows the names of the lighthouses, indicating also their situation, the order of apparatus, description, period (in seconds) and colour of the lights, and of what material the respective towers are built :—

Name of Light-house.	Order of Apparatus.	Description.	Period of Revolving Light.	Colour of Light.	Tower built of.
	<i>Dioptric.</i>		Seconds.		
Cape Maria van Diemen	1st order ..	Revolving	60	White	Timber.
	..	Fixed ..	..	Red, to show over Columbia Reef	
Moko Hinou ..	1st " ..	Flashing	10	White ..	Stone.
Tiri-Tiri (Auckland)	2nd " ..	Fixed ..	..	White, with red arc over Flat Rock	Iron.
Ponui Passage ..	5th " ..	" ..	..	White and red ..	Timber.
Cuvier Island ..	1st " ..	Revolving	30	White ..	Iron.
	2nd " ..	" ..	30	" ..	Timber.
Portland Island	..	Fixed ..	..	Red, to show over Bull Rock	
Cape Palliser ..	2nd " ..	Flashing	Twice every half-minute, with three seconds intervals between flashes	White ..	Iron.
Pencarrow Head	2nd " ..	Fixed ..	..	White ..	Iron.
Cape Egmont ..	2nd " ..	" ..	..	" ..	Timber.
Manukau Head	3rd " ..	" ..	..	" ..	
Kaipara Head ..	2nd " ..	Flashing	10	" ..	"
	2nd " ..	" ..	10	" ..	"
Brothers (in Cook Strait)	..	Fixed ..	..	Red, to show over Cook Rock	"
Cape Campbell	2nd " ..	Revolving	60	White ..	"
Godley Head (Lyttelton)	2nd " ..	Fixed ..	..	" ..	Stone.
Akaroa Head ..	2nd " ..	Flashing	10	" ..	Timber.
Moeraki ..	3rd " ..	Fixed ..	..	" ..	"
Taiaroa Head ..	3rd " ..	" ..	..	Red ..	Stone.
Cape Saunders ..	2nd " ..	Revolving	60	White ..	Timber.
Nugget Point ..	1st " ..	Fixed ..	..	" ..	Stone.
Waipapapa Point	2nd " ..	Flashing	10	" ..	Timber.
	<i>Cata-dioptric.</i>				
Dog Island ..	1st order ..	Revolving	30	" ..	Stone.
	<i>Dioptric.</i>				
Centre Island ..	1st order ..	Fixed ..	..	White, with red arcs over inshore dangers	Timber.
Puysegur Point	1st " ..	Flashing	10	White ..	"
Cape Foulwind	2nd " ..	Revolving	30	" ..	"
Farewell Spit ..	2nd " ..	" ..	60	White, with red arc over Spit end	"
Nelson ..	4th " ..	Fixed ..	..	White, with red arc to mark limit of anchorage	Iron.
French Pass ..	6th " ..	" ..	..	Red and white, with white light on beacon	"
Stephens Island	1st " {	Group flashing	30	White ..	"

ANNUAL PENSIONS

PAID BY THE GOVERNMENT OF NEW ZEALAND, AS ON 31ST MARCH, 1898.

[By an Act passed in 1871 the pension system was abolished in New Zealand. In 1893 the Civil Service Insurance Act was passed, the main provisions of which are described at the end of this table.]

Name.	Date from which Pension commenced.	Amount.	Name.	Date from which Pension commenced.	Amount.
<i>Under "The Civil Service Act, 1866."</i>			<i>Under "The Civil Service Act, 1866"—ctd.</i>		
		£ s. d.			£ s. d.
Allan, A. S. ..	1 Sept., 1888	195 5 0	Freeth, J. J. ..	1 Mar., 1894	116 13 4
Andrews, A. ..	1 May, 1896	141 12 0	Gill, R. J. ..	1 Sep., 1886	228 11 5
Arrow, H. ..	1 Aug., 1881	26 0 0	Graham, G. H. ..	8 Sep., 1891	52 10 0
Austin, A. D. ..	1 Oct., 1887	247 10 0	Gregory, J. ..	16 Feb., 1881	53 6 8
Anderson, J. G. ..	6 Jan., 1896	261 18 1	Greenway, J. H. ..	1 Nov., 1891	116 16 0
Baddeley, H. C. ..	12 Jan., 1888	225 0 0	Giles, J. ..	1 Feb., 1894	238 6 8
Bailie, F. ..	1 Feb., 1893	77 8 8	Halliday, C. ..	31 Aug., 1886	96 13 4
Baker, E. ..	1 Nov., 1880	214 17 1	Hamilton, M. ..	11 July, 1880	200 0 0
Barnard, W. H. ..	1 June, 1880	101 18 1	Hart, J. T. ..	12 Nov., 1890	193 7 0
Barnes, G. H. ..	16 Feb., 1896	100 0 0	Hartwright, H. ..	1 Jan., 1886	152 7 8
Barr, A. ..	1 Oct., 1888	366 13 4	Haselden, C. J. A. ..	1 July, 1896	255 19 1
Batkin, C. T. ..	1 April, 1890	533 6 0	Heddell, P. ..	17 Oct., 1894	90 0 0
Bertrand, J. R. ..	17 Feb., 1895	135 0 0	Henn, J. ..	1 April, 1893	88 3 4
Bicknell, F. ..	1 Feb., 1892	96 13 4	Hill, C. J. ..	9 Feb., 1895	72 0 0
Blomfield, J. ..	21 Mar., 1889	101 15 0	Holden, T. ..	13 Oct., 1878	31 5 0
Bridson, W. ..	1 Aug., 1893	146 8 7	Jackman, S. J. ..	1 May, 1892	149 6 8
Brown, W. R. E. ..	1 Aug., 1892	265 16 8	Johnston, D. ..	15 Dec., 1880	366 13 4
Buchanan, J. ..	1 July, 1886	127 13 6	Judd, A. ..	1 April, 1887	173 6 8
Burgess, A. ..	1 June, 1886	116 13 4	Keetley, E. ..	1 July, 1884	18 12 10
Burn, J. F. ..	1 July, 1887	51 0 0	Kelly, J. D. ..	1 July, 1891	130 19 0
Butts, E. D. ..	1 April, 1893	258 6 8	Kissling, T. ..	1 Jan., 1894	317 5 2
Campbell, F. E. ..	1 Mar., 1890	466 13 0	Laing, E. B. ..	1 April, 1887	112 10 0
Carrington, O. ..	1 Feb., 1878	300 0 0	Laing, W. ..	1 Feb., 1896	212 10 0
Chapman, R. ..	1 Jan., 1868	255 19 0	Lang, A. ..	1 Feb., 1893	75 15 8
Cheeseman, G. H. ..	1 Mar., 1893	82 10 0	Leimon, C. ..	1 Mar., 1895	350 0 0
Cheesman, W. F. ..	1 April, 1890	154 15 1	Lincoln, R. S. ..	1 Mar., 1889	68 17 0
Clarke, H. T. ..	1 Jan., 1879	400 0 0	Lodge, W. F. ..	1 Oct., 1881	185 0 0
Clarke, H. ..	1 Oct., 1879	98 13 0	Lubecki, A. D. ..	1 April, 1896	200 0 0
Cook, R. C. ..	1 Sept., 1895	160 14 3	Lundon, D. ..	1 May, 1892	210 0 0
Cooper, G. S. ..	1 Aug., 1892	533 6 8	Lusher, R. A. ..	31 Aug., 1880	76 16 8
Costall, J. ..	10 July, 1892	131 3 10	Meikle, A. M. ..	1 May, 1887	145 14 3
Creeke, W. ..	1 April, 1891	52 15 8	Millar, G. ..	1 Feb., 1896	80 7 0
Crowe, A. ..	31 Dec., 1885	68 12 3	Mills, W. ..	23 Sept., 1875	385 14 4
Culpan, W. ..	1 Dec., 1868	62 10 0	Mitford, G. M. ..	1 Feb., 1869	196 15 0
Cunningham, J. ..	1 Feb., 1888	175 0 0	Monson, J. R. ..	1 Oct., 1882	271 16 0
DeCastro, C. D. ..	1 Mar., 1892	172 10 0	Monro, H. A. H. ..	1 Nov., 1880	342 17 2
Dick, S. J. ..	1 Feb., 1893	250 0 0	Morpeth, W. J. ..	4 Aug., 1894	195 4 9
Dickey, A. J. ..	1 Nov., 1875	122 0 5	Morrow, H. ..	1 June, 1890	120 16 8
Earle, J. ..	13 Nov. 1888	104 10 0	Macarthur, J. ..	1 Jan., 1876	65 0 0
Elliott, G. E. ..	30 Nov., 1872	400 0 0	McCulloch, H. ..	1 Aug., 1890	233 0 0
Falck, F. ..	1 Mar., 1893	125 13 4	MacDonnell, R. T. ..	23 July, 1890	150 0 0
Fenton, F. D. ..	3 Nov., 1881	630 19 0	McKellar, H. S. ..	1 Aug., 1892	433 6 8
Ferguson, J. ..	1 Feb., 1897	195 0 0	Norris, E. F. ..	1 Oct., 1893	88 17 9
Filleul, W. G. ..	16 April, 1896	140 16 8	Nuttall, J. ..	1 July, 1897	74 13 4

ANNUAL PENSIONS—continued.

Name.	Date from which Pension commenced.	Amount.	Name.	Date from which Pension commenced.	Amount.
<i>Under "The Civil Service Act, 1866"—continued.</i>			<i>Under "The Civil Service Act, 1866"—continued.</i>		
		£ s. d.			£ s. d.
O'Brien, L. ..	1 April, 1896	273 5 0	Von Sturmer, S. ...	1 July, 1895	288 1 11
O'Connor, R. ..	1 Sept., 1892	147 0 6	Wardell, H. S. ..	1 July, 1888	366 13 0
Parker, T. W. ..	1 June, 1881	242 3 9	Watson, R. ..	1 Oct., 1892	145 0 0
Parris, R. ..	1 Jan., 1877	314 5 8	White, W. ..	1 July, 1881	36 5 0
Pauling, G. W. ..	1 Feb., 1887	91 1 5	White, W. B. ..	1 July, 1873	375 4 9
Pearson, W. H. ..	30 Sept., 1884	340 9 6	Wilkin, J. T. W. ...	1 Feb., 1874	127 19 4
Phillips, W. M. ..	1 Dec., 1894	69 4 5	Williams, E. M. ...	1 April, 1880	135 0 0
Pickett, R. ..	1 Aug., 1866	209 10 6	Wilson, W. W. ..	1 Feb., 1881	100 14 3
Pinwill, A. ..	1 July, 1891	120 17 0	Woon, J. G. ..	1 July, 1892	209 10 6
Pitt, H. ..	1 May, 1881	100 0 0	Wrigg, H. C. W. ...	1 Aug., 1889	157 2 10
Plimpton, R. E. E.	4 Dec., 1883	110 14 3			
Powell, D. ..	1 July, 1893	44 1 8	<i>Under "The Hamerton Pension Act, 1891."</i>		
Rawson, C. E. ..	1 Dec., 1895	244 0 11	Hamerton, R. C. |	11 Sept., 1891	250 0 0
Rennell, W. ..	1 Dec., 1895	167 18 4			
Rich, E. F. ..	1 June, 1892	217 0 0	<i>Under "The Meredith and Others Pensions Act, 1870."</i>		
Robertson, J. ..	6 Oct., 1892	155 0 0			
Rodgers, W. J. ..	1 July, 1892	248 6 8	Collins, Mary ..	13 Nov., 1869	65 0 0
Rogan, J. ..	1 Jan., 1872	466 13 4	Hamlin, Rhoda B. |	1865	50 0 0
Rough, D. ..	1 May, 1868	277 1 8			
Rowe, C. ..	1 Oct., 1894	109 16 0	<i>Under "The Military Pensions Act, 1866."</i>		
Searancke, W. N. ..	1 Feb., 1879	240 0 0	Arapera te Reo. .	1 July, 1870	20 0 0
Shrimpton, J. ..	16 July, 1889	146 14 0	Brown, M. R. ..	..	75 0 0
Sinclair, A. ..	1 June, 1878	195 0 0	Hastings, L. ..	..	55 0 0
Smith, F. M. ..	1 Jan., 1897	66 13 0	Iritona, Hanita. .	8 Nov., 1868	12 0 0
Smith, J. ..	1 June, 1894	49 5 6	Marara, Ngakoa	3 Dec., 1860	36 0 0
Smith, J. E. ..	1 July, 1877	484 11 6	McDonald, E. ..	..	36 0 0
Smith, T. H. ..	1 July, 1876	371 8 7	Morrison, Ann'. .	26 Oct., 1865	36 0 0
Snoswell, T. ..	5 Dec., 1891	83 14 0	Russell, C. ..	..	36 0 0
Snow, C. H. ..	1 Dec., 1887	157 10 0	Von Tempsky, A. .	3 Oct., 1868	120 0 0
Somerville, W. ..	1 July, 1896	195 0 0	Adamson, T. ..	(a)	0 2 2*
Stevens, F. ..	1 Dec., 1892	183 0 0	Beamish, J. G. ...	(b)	0 1 6*
Stewart, J. T. ..	1 May, 1889	300 0 0	Corbett, George	(c)	0 2 0*
Taylor, G. ..	1 Mar., 1893	121 0 0	Crawford, C. F. .	..	0 2 0*
Thomas, G. W. ..	1 Nov., 1875	38 15 0	Dore, G. H. ..	(d)	0 2 0*
Thompson, R. ..	1 Mar., 1896	220 0 0	Gibbons, M. C. ...	12 Oct., 1869	0 2 2*
Tizard, E. F. ..	1 July, 1888	180 19 0	Hamblyn, J. ..	1 Oct., 1872	0 2 2*
Tovey, J. H. ..	1 April, 1895	77 0 10	Hope, E. L. ..	(e)	0 1 6*
Treseder, P. ..	13 Oct., 1897	184 3 4			
Tucker, W. ..	31 Dec., 1880	104 13 4			
Veal, J. ..	1 Sept., 1885	49 15 3			
Veale, J. S. ..	1 Sept., 1887	56 2 10			

* Per diem.

(a) 1s. 6d. from 25th October, 1869; increased to 2s. 2d., 7th December, 1870.

(b) 1s. from 17th December, 1868, to 17th December, 1869; 1s. 6d. from 17th December, 1869, to 17th December, 1870; 8d. from 17th December, 1870, to 30th September, 1874; increased to 1s. 6d., 1st October, 1874.

(c) 2s. from 5th June, 1867, to 5th June, 1868; 2s. from 5th June, 1868, to 5th June, 1869; permanent from 9th November, 1869.

(d) 2s. from 1st January, 1869, for eighteen months; permanent from 18th May, 1872.

(e) 1s. 6d. for twelve months, from 26th April, 1869; renewed for twelve months, 1870; renewed for twelve months, 1871; permanent from 12th May, 1872.

ANNUAL PENSIONS—continued.

Name.	Date from which Pension commenced.	Amount.	Name.	Date from which Pension commenced.	Amount.
<i>Under "The Military Pensions Act, 1866"—continued.</i>			<i>Under "The Walsh and Other Pensions Act, 1869."</i>		
		£ s. d.			£ s. d.
Kelly, T. ..	9 April, 1870	0 2 2*	Hewett, Ellen A. |	10 Feb., 1865	50 0 0
Kershaw, P. ..	9 Aug., 1869	0 1 6*			
Lacey, Garrett ..	..	0 2 2*	<i>Under "The Militia Act Amendment Act, 1862."</i>		
Lake, T. ..	..	0 2 6*			
Lloyd, T. ..	(f)	0 2 0*	Bending, W. ..	..	0 2 0*
McDonnell, W. ..	..	150 0 0	Bilton, F. ..	..	0 2 0*
McKay, G. ..	..	0 1 0*	Cody, W. ..	..	0 1 0*
McMahon, T. ..	(g)	0 2 0*	Dunn, A. J. N. ..	..	0 2 0*
Monck, J. B. ..	1 April, '72 h)	0 1 0*	King, E. M. ..	..	80 0 0
Ross, Edward O. ..	17 Nov., 1866	75 0 0	Leaf, R. ..	(m)	0 0 6*
Shanaghan, J. ..	..	0 1 6*	Sarten, Lucy ..	1864	0 2 0*
Shepherd, R. ..	(i)	0 2 8*	Skinner, W. H. ..	..	0 2 6*
Timms, W. ..	(k)	0 1 6*	Vickery, W. ..	..	0 2 0*
Tuffin, G. ..	..	0 2 2*	Woolfe, T. ..	..	0 2 0*
Vance, R. ..	8 April, 1870	0 2 2*			
Walsh, W. ..	15 Nov., 1866	0 1 6*	<i>Under "The Schafer, McGuire, and Others Pensions Act, 1872."</i>		
Wasley, Edw. O. ..	(l)	0 2 2*	McGuire, E. ..	29 Sept., 1871	0 1 0*
Williamson, F. ..	1 June, 1869	0 2 0*	Russell, W. ..	1 July, 1871	0 1 0*
Anaru Patapu ..	14 May, 1865	0 0 9*	Schafer, C. ..	1 July, 1871	30 0 0
Aperate Keunga ..	14 May, 1864	0 2 6*			
Karena Ruataniwha ..	1 July, 1870	0 1 0*	<i>Under "The Supreme Court Judges Act, 1874."</i>		
Matu Whitiki ..	1 April, 1885	0 0 6*			
Mauparoa ..	1 July, 1867	0 1 0*	Gresson, H. B. ..	1 April, 1875	750 0 0
Mehaka Kapa ..	2 Aug., 1865	0 0 9*			
Pera Taitimu ..	12 Oct., 1869	0 1 0*			

* Per diem.

(f) 2nd October, 1869; ceased on 9th April, 1870; renewed, 22nd April, 1874.

(g) 1s. 6d. from —, 1867; increased to 2s. from 14th February, 1868.

(h) 1s. 6d. for twelve months, from 15th March, 1869; 1s. for twelve months, from March, 1870; 1s. for twelve months, from March, 1871; permanent from 1st April, 1872.

(i) 3s. for twelve months, from 9th April, 1870; 2s. 8d., permanent, from 1st May, 1871.

(k) 1s. 6d. for twelve months, from 18th October, 1869; 1s. 6d. for twelve months, from October 1870; permanent from 5th November, 1871.

(l) 1s. 6d. for eight months, from 20th September, 1869; 2s. 2d. for twelve months, from 11th June, 1870; 2s. 2d. for twelve months, from 11th June, 1871; 2s. 2d. from 11th June, 1872; permanent from 12th June, 1873.

(m) 1s. from 10th May, 1865; renewed for twelve months, April, 1866; again renewed for twelve months; 8d. for twelve months, from 1868, to 10th May, 1869; 6d. for twelve months, from May 1869; permanent from 11th May, 1870.

NEW ZEALAND CROSS GRATUITIES (per Annum).

Adamson, Thomas, 7th May, 1869, £10.
 Austin, Samuel, 10th March, 1869, £10.
 Black, Solomon, 10th March, 1869, £10.
 Biddle, Benjamin, 10th March, 1869, £10.
 Carkeek, Arthur Wakefield, 7th Feb., 1870, £10.
 Hill, George, 10th April, 1869, £10.
 Rangihiwini, Te Keapa 10th March, 1869, £10.
 Lingard, William, 10th March, 1869, £10.
 Mace, Francis Joseph, 10th March, 1869, £10.

Maling, Christopher, 10th March, 1869, £10.
 Mair, Gilbert, 7th February, 1870, £10.
 McDonnell, Thomas, 10th March, 1869, £10.
 Preece, George, 10th March, 1869, £10.
 Roberts, John Mackintosh, 10th March, 1869, £10.
 Rodriguez, Antonio, 10th March, 1869, £10.
 Shepherd, Richard, 13th March, 1869, £10.
 Smith, Angus, 7th June, 1869, £10.

MISCELLANEOUS PENSIONS.

Pension of late Provincial Government, Nelson—Mrs. Robinson's three daughters, £100.

Pension to Mrs. Elizabeth Ford, £46; pension of late F. G. Rawson continued to his widow, £45; pension of late Mrs. Passmore continued to her sisters, £91; pension to Aperahama Tahumirangi for wounds received when in the service of the New Zealand Government, £10.

"THE CIVIL SERVICE INSURANCE ACT, 1893."

It is provided by the above-named Act that every person appointed to the Civil Service under "The Civil Service Reform Act, 1886," or afterwards, shall retire at the age of sixty years; but the Governor in Council may, nevertheless, require any officer who has attained such age to continue to perform his duties, unless unfitted by reason of ill-health or other cause. It is also provided that if any officer appointed under "The Civil Service Reform Act, 1886," shall become permanently incapacitated through no fault of his own he shall receive compensation equal to one month's salary for each year of service. It is further provided that every officer under a certain age, to be fixed by regulations, appointed after the passing of this Act shall effect a policy on his (or her) own life with the Life Insurance Commissioner, providing the following combined benefits:—

- (1.) The payment of a sum of money on the death of such officer, should it occur before he attains the age of sixty years (or after that age, in consideration of his paying the necessary additional premium); and
- (2.) The payment to such officer of an annuity until death should he survive the age of sixty years.

The policies and moneys secured thereby are not assignable, and cannot be charged or attached, unless the officer leaves the service, voluntarily or otherwise, when he may either surrender the policy or maintain it in force, as he may choose.

The premiums are paid in the form of monthly deductions from salaries, according to the following schedule:—

Salary per Annum.				Monthly Deduction from Salary.	Yearly Deduction
				£ s. d.	£ s. d.
Under £150	..	..	..	0 8 4	5 0 0
£150 and under £200	..	..	..	0 12 6	7 10 0
£200	"	£250	..	0 16 8	10 0 0
£250	"	£300	..	1 0 10	12 10 0
£300	"	£350	..	1 5 0	15 0 0
£350	"	£400	..	1 9 2	17 10 0
£400	"	£450	..	1 13 4	20 0 0
£450	"	£500	..	1 17 6	22 10 0
£500	"	£550	..	2 1 8	25 0 0
£550	"	£600	..	2 5 10	27 10 0
£600	"	£650	..	2 10 0	30 0 0
£650	"	£700	..	2 14 2	32 10 0
£700	"	£750	..	2 18 4	35 0 0
£750	"	£800	..	3 2 6	37 10 0
£800 ..	..	..	..	3 6 8	40 0 0

When the salary is increased so that it falls in the next higher category in the schedule, the deductions and benefits are also pro-

portionately increased, according to the then present age of the policyholder, by indorsement of the policy.

By regulations under the Act, made by the Governor in Council, dated 8th March, 1894, scales of benefits were adopted. For every £5 annually deducted from the salary in accordance with the schedule already given there is provided a temporary insurance of £100 (constant at all ages at entry), ceasing at age sixty, together with a deferred annuity (varying with the age at entry from £63 11s. 1d. at age fifteen to £10 10s. 5d. at age forty) after the age of sixty. By consenting to a small additional deduction from salary, any officer may have the insurance continued after age sixty to the end of life. Newly-appointed officers who are over forty are allowed the option of accumulating 5 per cent. of their salaries in the Public Trust Office, or of taking out insurances or annuities in the Government Insurance Department.

At the end of 1897 there were 206 Civil Service policies in force, insuring £31,200 (including bonuses), and providing deferred annuities amounting to £7,872. Six policies had been lapsed or surrendered, insuring £891 at death, with £207 deferred annuities; two policies, insuring £202, had become claims by death; and the holders of five policies, insuring £2,179 (with £140 deferred annuities), had left the Civil Service, but elected to continue their policies with the Insurance Department.

These policies, placed in separate tables, are merged in the general business of the Insurance Department, and share in the periodical distributions of profits. At successive valuations the necessary reserve is made to fully cover the liability which has accrued upon each of the contracts, thus avoiding the possibility of any future danger such as has overtaken so many pension schemes administered on unsound principles. Indeed, it may be said that two of the greatest benefits conferred upon the participants in this scheme are the avoidance of fluctuation in the fund through amalgamating with a large insurance institution, and the possession of fixed and irrevocable contracts, clearly defining the benefits to be received at death or by way of pension.

THE CUSTOMS TARIFF OF NEW ZEALAND,

Under the Customs and Excise Duties Acts, 1888 and 1895, and "The Tobacco Excise Duties Act, 1896."

TABLE OF DUTIES.

THE headings of the respective classes in this Table and in the Table of Exemptions are used solely for convenience of classification, and shall not in any way affect the articles specified therein, or be construed to indicate the material of which any such article is made.

The word "iron" includes steel, or steel and iron combined.

Neither steam-engines, nor parts of steam-engines, nor steam-boilers (land or marine) are included in the expression "machines" or "machinery" in either this Table or the Table of Exemptions.

The abbreviation "n.o.e." means not otherwise enumerated.

CLASS I.—FOODS AND ARTICLES FOR HUMAN CONSUMPTION.

Names of Articles and Rates of Duty.

1. Almonds, in the shell, 2d. the lb.
2. Almonds, shelled, n.o.e, 3d. the lb.
3. Bacon and hams, 2d. the lb.
4. Biscuits, ships', plain and unsweetened, 3s. the cwt.
5. Biscuits, other kinds, 2d. the lb.
6. Boiled sugars, comfits, lozenges, Scotch mixtures, and sugar-candy, 2d. the lb., including internal packages.
7. Candied peel and drained peel, 3d. the lb.
8. Capers, caraway seeds, catsup, cayenne pepper, chillies, chutney, curry-powder and -paste, fish-paste, gelatine, isinglass, liquorice, olives, 20 per cent. *ad valorem*.
9. Chocolate confectionery, and all preparations of chocolate or cocoa—
In plain trade packages, 3d. the lb.
In fancy packages, or in small packages for retail sale, 20 per cent. *ad valorem*.
10. Confectionery, n.o.e., 2d. the lb., including internal packages.
11. Fish, dried, pickled, or salted, n.o.e., 10s. the cwt.
12. Fish, potted and preserved, 2d. the lb., or packages of that reputed weight, and so in proportion for packages of greater or less reputed weight.
13. Fruit, fresh, viz. :—
Apples, pears, plums, cherries, peaches, nectarines, medlars, apricots, quinces, tomatoes, 1d. the lb.
(No duty exceeding $\frac{1}{4}$ d. the lb. to be levied on apples and pears from 14th July to 31st December.)
Currants, raspberries, gooseberries, blackberries, and strawberries, $\frac{1}{2}$ d. the lb.
Lemons, $\frac{3}{4}$ d. the lb.
14. Fruits, dried, 2d. the lb.
15. Fruits, preserved in juice or syrup, 25 per cent. *ad valorem*.
16. Fruit-pulp, and partially preserved fruit, n.o.e., $1\frac{1}{4}$ d. the lb.
17. Fruits preserved by sulphurous acid, 1d. the lb.
18. Glucose, 1d. the lb.
19. Honey, 2d. the lb.
20. Jams, jellies, marmalade, and preserves, 2d. the lb. or packages of that reputed weight, and so in proportion for packages of greater or less reputed weight.
21. Jellies concentrated in tablets or powder, 4d. the lb.
22. Maizena and cornflour, $\frac{1}{4}$ d. the lb.
23. Meats, potted or preserved, 20 per cent. *ad valorem*.
24. Milk, preserved, 25 per cent. *ad valorem*.
25. Mustard, 2d. the lb.
26. Nuts of all kinds, except cocoanuts, 2d. the lb.
27. Oysters, preserved, 2d. the lb. or packages of that reputed weight, and so in proportion for packages of greater or less reputed weight.
28. Pearl barley, 1s. the cwt.
29. Peas, split, 2s. the cwt.
30. Pickles, 3s. the imperial gallon.
31. Provisions, n.o.e., 20 per cent., *ad valorem*.
32. Rice and rice-flour, 6s. the cwt.
33. Rice, undressed, and dressed in bond, 4s. the cwt.
34. Salt, except rock-salt, 10s. the ton.
35. Sardines, including the oil, 2d. the lb.
36. Sauces, 4s. the imperial gallon.
37. Spices, including pepper and pimento, unground, 2d. the lb.
38. Spices, including pepper and pimento, ground, 4d. the lb.
39. Sugar, $\frac{1}{4}$ d. the lb.
40. Treacle and molasses, $\frac{1}{2}$ d. the lb.

- 41. Vegetables, fresh, dried, or preserved, 20 per cent., *ad valorem*.
- 42. Vinegar, table, not exceeding 6·5 per cent. of acidity,* 6d. the gallon.

CLASS II.—TOBACCO.

- 43. Cigarettes, not exceeding in weight 2½lb. per 1,000, 17s. 6d. the 1,000. And for all weight in excess of 2½lb. per 1,000, 6d. the oz.
- 44. Cigars, 7s. the lb.
- 45. Snuff, 7s. the lb.
- 46. Tobacco, 3s. 6d. the lb.
- 47. Tobacco unmanufactured, entered to be manufactured in the colony in any licensed tobacco manufactory, for manufacturing purposes only, into tobacco, cigars, cigarettes, or snuff, 2s. the lb.

CLASS III.—ALCOHOLIC BEVERAGES, AND MATERIALS FOR MAKING SAME.

- 48. Ale, beer of all sorts, porter, cider, and perry, the gallon, or for six reputed quart bottles, or 12 reputed pint bottles, 2s. the gallon.
- 49. Cordials, bitters, and liqueurs, 16s. the liquid gallon.
- 50. Hops, 6d. the lb.
- 51. Malt, 2s. the bushel.
- 52. Rice malt, 1d. the lb.
- 53. Solid wort, 6d. the lb.
- 54. Spirits and strong waters, the strength of which can be ascertained by Sykes's hydrometer, 16s. the proof gallon.
(No allowance beyond 16·5 under proof shall be made for spirits or strong waters of a less hydrometer strength than 16·5 under proof.)
- 55. Spirits and strong waters, sweetened or mixed, when not exceeding the strength of proof, 16s. the liquid gallon.
- 56. Spirits and strong waters in cases shall be charged as follows, namely:—
Two gallons and under, as two gallons; over two gallons and not exceeding three, as three gallons; over three gallons and not exceeding four, as four gallons; and so on for any greater quantity contained in any case.
- 57. Spirits or strong waters, mixed with ingredients in any proportion exceeding 33 per cent. of proof spirit, and although thereby coming under any other designation, excepting patent or proprietary medicines, or tinctures and medicinal spirits otherwise enumerated, 16s. the liquid gallon.
- 58. Wine, Australian, containing not more than 35 per cent. of proof spirit verified by Sykes's hydrometer, the gallon, or for six reputed quart bottles, or twelve reputed pint bottles, 5s. the gallon.
- 59. Wine, other than sparkling and Australian, containing less than 40 per cent. of proof spirit verified by Sykes's hydrometer, the gallon, or for six reputed quart bottles, or twelve reputed pint bottles, 6s. the gallon.
- 60. Wine, sparkling, 9s. the gallon.

CLASS IV.—NON-ALCOHOLIC BEVERAGES, AND MATERIALS FOR MAKING SAME.

- 61. Aerated and mineral waters and effervescing beverages, 20 per cent. *ad valorem*.
- 62. Chicory, 3d. the lb.
- 63. Chocolate, 3d. the lb.
- 64. Cocoa, 3d. the lb.
- 65. Coffee, essence of, 20 per cent. *ad valorem*.
- 66. Coffee, raw, 2d. the lb.
- 67. Coffee roasted, 5d. the lb.
- 68. Syrups; lime- or lemon-juice sweetened; raspberry vinegar, 25 per cent. *ad valorem*.
- 69. Tea, 4d. the lb.

* Vinegar exceeding 6·5 per cent. of acidity to be treated as acetic acid.

CLASS V.—DRUGS, MEDICINES, CHEMICALS, AND DRUGGISTS' SUNDRIES.

70. Acid, acetic, n.o.e., containing not more than 30 per cent. of acidity, 1½d. the lb.
For every 10 per cent. of acidity or fraction thereof additional, ½d. the lb.
71. Acid, tartaric, 1d. the lb.
72. Baking-powder, yeast preparations, and other ferments, 20 per cent. *ad valorem*.
73. Chemicals n.o.e., including photographic chemicals and glacial acetic acid, 20 per cent. *ad valorem*.
74. Cream of tartar, 1d. the lb.
75. Drugs and druggists' sundries and apothecaries' wares, n.o.e., 20 per cent. *ad valorem*.
76. Essences, flavouring, spirituous, 15 per cent. *ad valorem* until 1st February, 1896, and thereafter 16s. the liquid gallon.
77. Essences, flavouring, n.o.e., 15 per cent. *ad valorem*.
78. Eucalyptus oil, in bulk or bottle, 20 per cent. *ad valorem*.
79. Glycerine, refined, 20 per cent. *ad valorem*.
80. Opium, 40s. the lb.
81. Patent medicines, 40 per cent. *ad valorem*.
82. Proprietary medicines, or medicaments, (1) bearing the name of the proprietor on label or package; (2) bearing a prefixed name in the possessive case; (3) n.o.e., prepared by any occult secret or art, 40 per cent. *ad valorem*.
83. Saccharine, except in the form of tabloids or tablets, 1s. 6d. the ounce.
84. Sarsaparilla, 25 per cent. *ad valorem*.
85. Soda, carbonate and bicarbonate, 1s. the cwt.
86. Soda, crystals, 2s. the cwt.
87. Tinctures and medicinal spirits of any recognised pharmacopœia, containing more than 50 per cent. of proof spirit, 1s. the lb.
88. Tinctures and medicinal spirits of any recognised pharmacopœia, containing less than 50 per cent. of proof spirit, 6d. the lb.

CLASS VI.—CLOTHING AND TEXTILE GOODS.

89. Apparel and ready-made clothing, and all articles n.o.e. made up wholly or in part from textile or other piece-goods, 25 per cent. *ad valorem*.
90. Apparel made by British or foreign tailors, dress-, mantle-, or jacket-makers, to the order of residents in the colony, and intended for the individual use of such residents, whether imported by the residents themselves or through an importing firm, 40 per cent. *ad valorem*.
91. Blankets, 20 per cent. *ad valorem*.
92. Collars and cuffs, of paper or other material, 25 per cent. *ad valorem*.
93. Cotton counterpanes, 20 per cent. *ad valorem*.
94. Cotton piece-goods, to include turkey twills, dress prints (hard-spun and plain-woven), where the invoice value does not exceed 4d. the yard; and cotton piece-goods n.o.e., 10 per cent. *ad valorem*.
95. Cotton piece goods—namely, tapestry; cretonnes; chintz art crêpe, and serges; velveteens, velvets, and plushes, all kinds; damasks, moquette; sateens, linenettes; crepons; crimps; zephyrs; gingham; turkey twills; prints; printed cottons; piqués; vestings; quiltings and marcellas; muslins of all kinds; nets; window-nets; hollands, curtains, and blinds; diapers; ticks, including coloured Belgian; towellings; laces: 20 per cent. *ad valorem*.
96. Drapery n.o.e., 20 per cent. *ad valorem*.
97. Feathers, ornamental (including ostrich), and artificial flowers, 25 per cent. *ad valorem*.
98. Forfar, dowlas, and flax sheeting, n.o.e., 20 per cent. *ad valorem*.
99. Furs, 25 per cent. *ad valorem*.

100. Haberdashery n.o.e., 20 per cent. *ad valorem*.
101. Hats of all kinds, including straw hats, also caps, 25 per cent *ad valorem*.
102. Hosiery n.o.e., 20 per cent. *ad valorem*.
103. Lace, and laces, n.o.e., 25 per cent. *ad valorem*.
104. Millinery of all kinds, including trimmed hats, caps, and bonnets, 25 per cent. *ad valorem*.
105. Ribbons and crape, all kinds, 25 per cent. *ad valorem*.
106. Rugs, woollen, cotton, opossum, or other, 20 per cent. *ad valorem*.
107. Shawls, 20 per cent. *ad valorem*.
108. Silks, satins, velvets, plushes, n.o.e., composed of silk mixed with any other material, in the piece, 25 per cent. *ad valorem*.
109. Textile piece-goods other than cotton or silk, 20 per cent. *ad valorem*.
110. Umbrellas, parasols, and sunshades, 20 per cent. *ad valorem*.
111. Yarns n.o.e., 20 per cent. *ad valorem*.

CLASS VII.—LEATHER AND MANUFACTURES OF LEATHER.

112. Boots, shoes, and slippers, n.o.e; goloshes, clogs, pattens, vamps, uppers, and laces, 22½ per cent. *ad valorem*.
113. Heel plates, and toe-stiffeners and plates, 22½ per cent. *ad valorem*.
114. Leather—
 - Leather belting and belt-leather, harness, bridle, legging, bag, kip (other than East India), 4d. the lb.
 - Buff and split, including satin hides and tweeds, 3d. the lb.
 - Cordovan, levantad leather, roans, sheepskins, morocco n.o.e., basils, 3d. the lb.
 - Sole-leather, 2d. the lb.
 - East India kip, Persians, lambskins and goatskins (dressed other than morocco), kangaroo and wallabi skins (dressed), tan and coloured calf, 2d. the lb.
 - Leather n.o.e., 1d. the lb.
115. Leather board or compo, 4d. the lb.
116. Leather bags and leather-cloth bags, n.o.e., 20 per cent. *ad valorem*.
117. Leather, chamois, 20 per cent. *ad valorem*.
118. Leather cut into shapes, 22½ per cent. *ad valorem*.
119. Leather leggings, 22½ per cent. *ad valorem*.
120. Leather manufactures n.o.e., 20 per cent. *ad valorem*.
121. Portmanteaux; trunks; travelling-bags and brief-bags of leather or leather-cloth, 10 in. in length and upwards, and carpet-bags, 25 per cent. *ad valorem*.
122. Saddlery and harness, whips and whip-thongs, 20 per cent. *ad valorem*.

CLASS VIII.—FURNITURE AND HOUSEHOLD FURNISHINGS.

123. Basket- and wicker-ware n.o.e., not being furniture, 20 per cent. *ad valorem*.
124. Carpets and druggets; floorcloth; mats and matting, 20 per cent. *ad valorem*.
125. Desks, 20 per cent. *ad valorem*.
126. Furniture and cabinetware, n.o.e., and other than iron, 25 per cent. *ad valorem*.
127. Furniture, knife-, and plate-powder and polish, 20 per cent. *ad valorem*.
128. Mantelpieces, other than stone, 20 per cent. *ad valorem*.
129. Upholstery n.o.e., 25 per cent. *ad valorem*.

CLASS IX.—CHINA, GLASS, AND EARTHEN GOODS.

130. Bricks, known as firebricks, 20 per cent. *ad valorem*.
131. China, porcelain, and parianware, 20 per cent. *ad valorem*.
132. Drainage pipes and tiles, 20 per cent. *ad valorem*.
133. Earthen flooring and garden tiles, 20 per cent. *ad valorem*.
134. Earthenware, stoneware, and brownware, 20 per cent. *ad valorem*.

- 135. Filters, 20 per cent. *ad valorem*.
- 136. Fireclay, ground, and fireclay goods, 20 per cent. *ad valorem*.
- 137. Glass, crown, sheet, and common window, 2s. the 100 superficial feet.
- 138. Glassware; also plate-glass, and glass polished, coloured, and other kinds n.o.e.; globes and chimneys for lamps, 20 per cent. *ad valorem*.
- 139. Lamps, lanterns, and lamp-wick, 20 per cent. *ad valorem*.
- 140. Plate-glass, bevelled or silvered; mirrors and looking-glasses, framed or unframed, 25 per cent. *ad valorem*.

CLASS X.—FANCY GOODS, MUSICAL INSTRUMENTS, ETC.

- 141. Artificial flies, 25 per cent. *ad valorem*.
- 142. Cards, playing, 6d. per pack.
- 143. Clocks, 20 per cent. *ad valorem*.
- 144. Dressing-cases, 20 per cent. *ad valorem*.
- 145. Fancy goods, and toys, 20 per cent. *ad valorem*.
- 146. Fishing tackle, including artificially-baited hooks other than flies, 20 per cent. *ad valorem*.
- 147. Jewellery; plate, gold or silver; greenstone, cut or polished: 20 per cent. *ad valorem*.
- 148. Mouldings in the piece, for picture-frames, cornices, or ceilings, 15 per cent. *ad valorem*.
- 149. Musical instruments of all kinds n.o.e., 20 per cent. *ad valorem*.
- 150. Oil, perfumed, 25 per cent. *ad valorem*.
- 151. Papier-maché ware, 20 per cent. *ad valorem*.
- 152. Perfumery n.o.e., 25 per cent. *ad valorem*.
- 153. Perfumed spirits and Cologne-water; £1 1s. the liquid gallon until the 1st February, 1896, and thereafter £1 10s. the liquid gallon.
- 154. Photographic goods n.o.e., 20 per cent. *ad valorem*.
- 155. Pictures, paintings, drawings, engravings, and photographs, framed or unframed; picture- or photograph-frames and -mounts, 20 per cent. *ad valorem*.
- 156. Platedware, 20 per cent. *ad valorem*.
- 157. Statues, statuettes, casts, and bronzes, 20 per cent. *ad valorem*.
- 158. Tobacco-pipes and cases, cigar- and cigarette-holders and cases, cigarette-papers and -cases, 25 per cent. *ad valorem*.
- 159. Toilet preparations n.o.e., 25 per cent. *ad valorem*.
- 160. Watches, 20 per cent. *ad valorem*.
- 161. Walking-sticks, 20 per cent. *ad valorem*.

CLASS XI.—PAPER MANUFACTURES AND STATIONERY.

- 162. Calendars and show-cards, all kinds, 25 per cent. *ad valorem*.
- 163. Cardboard boxes complete, or cardboard cut and shaped for boxes (including match-boxes), 25 per cent. *ad valorem*.
- 164. Directories of New Zealand, or of any part thereof; also covers for directories, 25 per cent. *ad valorem*.
- 165. Handbills, programmes, and circulars, playbills and printed posters, 20 per cent. *ad valorem*.
- 166. Ink, writing, 20 per cent. *ad valorem*.
- 167. Paper bags, coarse (including sugar-bags), 7s. 6d. the cwt.
- 168. Paper bags n.o.e., 25 per cent. *ad valorem*.
- 169. Paper-hangings, 15 per cent. *ad valorem*.
- 170. Paper, wrapping—viz., blue candle, glazed cap, glazed casings, small hand, lumber hand, and tissue, 5s. the cwt.
- 171. Paper, wrapping, other kinds, including brown, cartridge, and sugar papers, 5s. the cwt.
- 172. Printed matter relating to patent or proprietary medicines; trade catalogues, price-lists, and fashion-plates of the goods of firms or persons in the colony, 25 per cent. *ad valorem*.
- 173. Stationery and writing paper n.o.e., 20 per cent. *ad valorem*.

174. Stationery, manufactured—viz., account-books; manuscript books; bill-head, invoice, and statement forms; printed or ruled paper; counter-books; cheque- and draft-forms; tags; labels; blotting-pads; sketch-books; book covers; copying letter-books; manifold writers; albums (other than for photographs); diaries; birthday-books; plain or faint-lined ruled books; printed window-tickets; printed, lithographed, or embossed stationery; and Christmas, New Year, birthday, and Easter cards and booklets: 25 per cent. *ad valorem*.
175. Stereotypes and matrices, 25 per cent. *ad valorem*.

CLASS XII.—MANUFACTURES OF METAL.

176. Bicycles, tricycles, and the like vehicles; also finished or partly finished or machined parts of same, n.o.e., including weldless steel tubing out to short lengths, 20 per cent. *ad valorem*.
177. Boilers, land and marine, 20 per cent. *ad valorem*.
178. Brass cocks, valves, unions, lubricators, and whistles, 20 per cent. *ad valorem*.
179. Brass manufactures n.o.e., 20 per cent. *ad valorem*.
180. Cartridges (shot), 10- to 24-bore, 1s. 6d. the 100.
181. Cartridge-cases, 9d. the 100.
182. Cartridges, n.o.e., 20 per cent. *ad valorem*.
183. Cash-registering machines, 10 per cent. *ad valorem*.
184. Coffin-furniture, 20 per cent. *ad valorem*.
185. Composition-piping, 3s. 6d. the cwt.
186. Copper manufactures n.o.e., 20 per cent. *ad valorem*.
187. Copying-presses, 20 per cent. *ad valorem*.
188. Crab-winches, cranes n.o.e., capstans, and windlasses, 20 per cent. *ad valorem*.
189. Cutlery, 20 per cent. *ad valorem*.
190. Firearms, all kinds, 20 per cent. *ad valorem*.
191. Galvanised-iron manufactures n.o.e., 25 per cent. *ad valorem*.
192. Gasometers, and other apparatus for producing gas; also gas-meters, 10 per cent. *ad valorem*.
193. Gaspipes, iron, 5 per cent. *ad valorem*.
194. Hardware, ironmongery, and holloware, 20 per cent. *ad valorem*.
195. Iron bridges, and iron material, n.o.e., for the construction of bridges, wharves, jetties, or patent slips, 20 per cent. *ad valorem*.
196. Iron columns for buildings, and other structural ironwork, 20 per cent. *ad valorem*.
197. Iron doors for safes and vaults, 20 per cent. *ad valorem*.
198. Iron, galvanised corrugated sheets, screws, and nails, 2s. the cwt.
199. Iron galvanised tiles, ridging, guttering, and spouting, 20 per cent. *ad valorem*.
200. Iron gates and gate-posts, staples, standards, straining posts and apparatus, 20 per cent. *ad valorem*.
201. Iron nails, 2s. the cwt.
202. Iron pipes; and fittings for same, including main-cocks, 5 per cent. *ad valorem*.
203. Iron, plain galvanised sheet and hoop, 1s. 6d. the cwt.
204. Iron tanks, exceeding 200 gallons and not exceeding 400 gallons, 10s. each.
205. Iron tanks, of and under 200 gallons, 5s. each.
206. Iron-work and wire-work, 20 per cent. *ad valorem*.
207. Japanned and lacquered metal ware, 25 per cent. *ad valorem*.
208. Lawn-mowers, 20 per cent. *ad valorem*.
209. Lead, in sheets, 1s. 6d. the cwt.
210. Lead piping, 3s. 6d. the cwt.
211. Machinery, n.o.e., 20 per cent. *ad valorem*.
212. Machinery, electric, and appliances, 10 per cent. *ad valorem*.

213. All machinery for agricultural purposes, including chaff-cutters, corn-crushers, corn-shellers, also articles used in manufacturing the same—namely, chaff-cutting knives, tilt-rakes, fittings for threshing-mills, forgings for ploughs; but excluding reapers and binders, 5 per cent. *ad valorem*.
214. Machinery for dairying purposes (excluding separators and coolers), 5 per cent. *ad valorem*.
215. Machinery for flour-mills, woollen-mills, paper-mills, rope- and twine-making, dredging, saw-milling, planing, and wood-working (including lathes), oil-refining, boring, and also machinery for refrigerating or preserving meat, leather-splitting machines, and band-knives for same, 5 per cent. *ad valorem*.
216. Machinery for stamping and blocking tin, 5 per cent. *ad valorem*.
217. Machinery of every description for mining purposes, including machine pumps, but excluding machinery for gold-saving purposes and processes, 5 per cent. *ad valorem*.
218. Manufactures, n.o.e., of metal, or of metal in combination with any other material, 20 per cent. *ad valorem*.
219. Nails n.o.e., 3s. the cwt.
220. Portable engines on four or any greater number of wheels, with boilers of locomotive type; also traction-engines, 5 per cent. *ad valorem*.
221. Printing machines and presses, 5 per cent. *ad valorem*.
222. Pumps and other apparatus for raising water n.o.e., 20 per cent. *ad valorem*.
223. Railway and tramway plant and materials n.o.e., 20 per cent. *ad valorem*.
224. Sad-irons, 20 per cent. *ad valorem*.
225. Shot, 10s. the cwt.
226. Soda-water machines; also machines for aerating liquids, 5 per cent. *ad valorem*.
227. Steam-engines and parts of steam-engines n.o.e., 20 per cent. *ad valorem*.
228. Steam-engines and parts thereof (including the boiler or boilers thereof), imported specially for mining and dairying purposes, 5 per cent. *ad valorem*.
229. Tinware, and tinsmiths' furniture, n.o.e., 25 per cent. *ad valorem*.
230. Waterworks pipes, iron, 5 per cent. *ad valorem*.
231. Weighbridges and weighing-machines, 20 per cent. *ad valorem*.
232. Wire mattresses and webbing, 20 per cent. *ad valorem*.
233. Zinc tiles, ridging, guttering, piping, 20 per cent. *ad valorem*.
234. Zinc manufactures n.o.e., 25 per cent. *ad valorem*.

CLASS XIII.—TIMBER AND ARTICLES MADE FROM TIMBER.

235. Bellows, other than forge, 20 per cent. *ad valorem*.
236. Blocks, wooden tackle, 20 per cent. *ad valorem*.
237. Buckets and tubs, of wood, 20 per cent. *ad valorem*.
238. Carriages, carts, drays, wagons and perambulators, and wheels for the same, 20 per cent. *ad valorem*.
239. Carriage shafts, spokes, and felloes, dressed: bent carriage timber n.o.e. 20 per cent. *ad valorem*.
240. Doors, glazed with ornamental glass, 4s. each.
241. Doors, plain, 2s. each.
242. Sashes, glazed with ornamental glass, 4s. the pair.
243. Sashes, plain, 2s. the pair.
244. Timber, palings, 2s. the 100.
245. Timber, posts, 8s. the 100.
246. Timber, rails, 4s. the 100.
247. Timber, sawn, dressed, 4s. the 100 ft. superficial.
248. Timber, sawn, rough, 2s. the 100 ft. superficial.
249. Timber, shingles and laths, 2s. the 1,000.
250. Woodenware and turnery n.o.e., and veneers, 20 per cent. *ad valorem*.

CLASS XIV.—OILS, PAINTS, ETC.

- 251. Axle-grease and other solid lubricants, 20 per cent. *ad valorem*.
- 252. Harness oil and composition, and leather dressing, 20 per cent. *ad valorem*.
- 253. Naphtha, 6d. the gallon.
- 254. Oil, kerosene, 6d. the gallon.
- 255. Oil, linseed, 6d. the gallon.
- 256. Oil, mineral, including shale-waste or unrefined mineral-oil n.o.e., 6d. the gallon.
- 257. Oil, n.o.e., 6d. the gallon.
- 258. Oil, olive, in bulk, 6d. the gallon.
- 259. Oil vegetable, in bulk, n.o.e., 6d. the gallon.
- 260. Oil, vegetable or other, in bottle, 15 per cent. *ad valorem*.
- 261. Paints and colours ground in oil or turpentine, 2s. 6d. the cwt.
- 262. Paints and colours mixed ready for use, 5s the cwt.
- 263. Putty, 2s. the cwt.
- 264. Stearine, 1½d. the lb.
- 265. Varnish, enamel paints, gold size, 2s. the gallon.
- 266. Whiting and chalk, 1s. the cwt.

CLASS XV.—AGRICULTURAL AND FARM PRODUCTS, ETC.

- 267. Animals, food for, of all kinds, n.o.e., 20 per cent. *ad valorem*.
- 268. Cattle (horned), 10s. each.
- 269. Chaff, £1 the ton.
- 270. Grain—namely, barley, 2s. the 100 lb.
- 271. Grain and pulse of every kind n.o.e., 9d. the 100 lb.
- 272. Grain and pulse of every kind, when ground or in any way manufactured, n.o.e., 1s. the 100 lb.
- 273. Horses, £1 each.
- 274. Linseed, £1 the ton.
- 275. Maize, 9d. the 100 lb.
- 276. Onions, £1 the ton.
- 277. Prepared calf-meal, £1 5s. the ton.

CLASS XVI.—MISCELLANEOUS.

- 278. Bags, flour, 20 per cent. *ad valorem*.
- 279. Bags, calico, forfar, hessian, and linen, 20 per cent. *ad valorem*.
- 280. Bagging and bags n.o.e., 15 per cent. *ad valorem*.
- 281. Blacking and boot-gloss, 20 per cent. *ad valorem*.
- 282. Blacklead, 20 per cent. *ad valorem*.
- 283. Blue, 2d. the lb.
- 284. Brooms, brushes, and brushware n.o.e., 25 per cent. *ad valorem*.
- 285. Brushes, hair, and combs; toilet, clothes, and hat brushes, 20 per cent. *ad valorem*.
- 286. Candles, 2d. the lb. or package of that reputed weight, and so in proportion for packages of greater or less reputed weight.
- 287. Cement, 2s. the barrel.
- 288. Cordage and rope n.o.e., 20 per cent. *ad valorem*.
- 289. Cork, cut, including bungs, 20 per cent. *ad valorem*.
- 290. Fireworks n.o.e., 20 per cent. *ad valorem*.
- 291. Flock, 10 per cent. *ad valorem*.
- 292. Glue and size, 1½d. the lb.
- 293. Granite, sawn on not more than two sides, and not dressed or polished, 5 per cent. *ad valorem*.
- 294. Marble, granite, and other stone, dressed or polished, and articles made therefrom, including mantelpieces, 25 per cent. *ad valorem*.

295. Matches—

Wooden, in boxes containing not more than 60 matches, 1s. the gross of boxes.

In boxes containing over 60 and not more than 100 matches, 2s. the gross of boxes.

In boxes containing more than 100 matches, for every 100 matches or fraction thereof contained in one box, 2s. the gross of boxes.

Wax, "plaid vestas" in cardboard boxes containing under 100 matches, 1s. 2d. the gross of boxes.

"Pocket vestas" in tin or other boxes containing under 100 matches, 1s. 9d. the gross of boxes.

"Sportsman's," "Ovals," and "No. 4 tin vestas" in boxes containing not more than 200 matches, 5s. the gross of boxes.

Other kinds, for every 100 matches or fraction thereof contained in one box, 2s. 6d. the gross of boxes.

296. Nets and netting, 20 per cent. *ad valorem*.

297. Powder, sporting, 6d. the lb.

298. Rice, manufactured into starch in bond, 2s. the cwt.

299. Sacks, other than cornsacks and jute sacks, 15 per cent. *ad valorem*.

300. Sausage-skins and casings (including brine or salt), 3d. the lb.

301. Soap, common yellow and blue mottled, 5s. the cwt.

302. Soap n.o.e. 25 per cent. *ad valorem*.

303. Soap-powder, extract of soap, dry soap, and soft-soap, 20 per cent. *ad valorem*.

304. Spirits, methylated, 1s. the liquid gallon.

305. Spirits, cleared from warehouse, methylated under prescribed conditions, 6d. the liquid gallon.

306. Starch, 2d. the lb.

307. Tarpaulins, tents, rick- and wagon-covers, 20 per cent. *ad valorem*.

308. Twine, n.o.e., 20 per cent. *ad valorem*.

309. Washing-powder, 20 per cent. *ad valorem*.

310. Wax, paraffin, mineral, vegetable, and Japanese, 1½d. the lb.

In addition to any duty chargeable by law on any goods imported into the colony, a further duty of 20 per cent. *ad valorem* shall be charged when the goods are prison-made.

TABLE OF EXEMPTIONS FROM DUTIES OF CUSTOMS.

CLASS I.—FOODS, ETC.

Names of Articles.

311. Almonds, Barbary, Sicily, and French, used in confectioners' manufactures.

312. Anchovies, salted, in casks.

313. Arrowroot, sago, tapioca, macaroni, vermicelli, and prepared groats.

314. Rock salt.

CLASS IV.—NON-ALCOHOLIC BEVERAGES, ETC.

315. Cocoa-beans.

CLASS V.—DRUGS, ETC.

316. Acids—viz.: boracic; carbolic, in bulk; fluoric; muriatic; nitric; oxalic; oleic; pyrogallie; salicylic; sulphuric.

317. Concentrated extracts, or essences in liquid form or preserved in fat for perfume-manufacturing purposes in manufacturing warehouses, in bottles of not less than 1 lb. in weight.

318. Disinfectants.

819. Drugs and chemicals—viz.: alum; sulphate of aluminium; sulphate of ammonia; anhydrous ammonia; aniline dyes; arsenic, bluestone, or sulphate of copper; borax; catechu; chloride of calcium; nitrate of silver; cochineal; creosote, crude or commercial; glycerine, crude; gum, arabic and tragacanth; gum benzoin; artificial gum arabic; gum damar; phosphorus; potash, caustic potash, and chlorate of potash; pearlash; cyanide of potassium; sal-ammoniac; saltpetre; acetate of soda, crude; soda-ash; caustic soda; nitrate of soda; silicate of soda, sulphate of soda; sulphide of sodium; strychnine; sulphur; chloride of zinc; iron-sulphates; gall-nuts; turmeric; saffron; nitrous-oxide gas; tree washes; insecticides; maltine; chlorodyne.
820. Essential oils, except eucalyptus; cod-liver oil; oil of rhodium.
821. Horse-drenches.
822. Medicinal barks, leaves, herbs, flowers, roots, and gums.
823. Scrub-exterminator.
824. Sheep-dip; sheep-drenches; sheep-licks.
825. Surgical and dental instruments and appliances.
826. Scientific and assay balances, retorts, flasks, and other appliances for chemical analysis and assay work.
827. Water-hardening chemicals for brewers' use.

CLASS VI.—CLOTHING AND TEXTILES.

828. Accoutrements for military purposes, excepting uniform clothing.
829. Brace-elastic and brace mountings.
830. Bunting, in the piece.
831. Butter- and cheese-cloth.
832. Buttons, tapes, wadding, pins, needles.
833. Calico, white and grey, also cotton sheetings, in the piece.
834. Corduroy, moleskin, and plain beaverskin, of cotton, in the piece.
835. Coloured cotton shirtings; flannelette shirtings.*
836. Forfar, dowlas, and flax sheeting, when cut up under supervision in sizes not exceeding 47 in. x 36 in. for making flour-bags, and not exceeding 54 in. for lining wool mats.
837. Fur-skins, green or sun-dried.
838. Gold or silver lace or braid for military clothing.
839. Hatmaker's materials—viz.: silk plush; felt hoods; shellac; galloons; calicoes; spale-boards for hat-boxes; leathers and linings; blocks; moulds; frames; ventilators; and tassels.
840. Hessians, plain or striped, and scrim.
841. Leather-cloth.
842. Minor articles (required in the making-up of apparel, boots, shoes, hats, caps, saddlery, umbrellas, parasols, and sunshades), enumerated in any order of the Commissioner, and published in the *Gazette*.
843. Sailcloth, canvas, and unbleached double-warped duck, in the piece.
844. Sewing cottons, silks, and threads; crotchet, darning, and knittin g cottons; angola mendings not exceeding 45 yards, on cards.
845. Silk for flour-dressing.
846. Silk twist (shoemakers' and saddlers').
847. Staymakers' binding, eyelets, corset-fasteners, jean, ticks, lasting, sateen, and cotell.
848. Tailors' trimmings—viz.: plain-coloured imitation hair-cloth; canvas; plain Verona and plain diagonal, and such patterns of checked Italian cloth as may be approved of by the Commissioner of Customs; Italian cloth of cotton or wool; buckram; wadding and padding; silk, worsted, and cotton bindings and braids; stay-bindings; Russia braids; shoulder-pads; buckles; silesias; drab, slate, and brown jeans; pocketings; slate, black, and brown dyed unions and linens.

* See note on next page.

349. Umbrella-makers' materials—viz.: reversible and levantine silk mixtures, gloria, and satin de chène of not less than 44 in. in width; alpaca cloth, with border; zarella cloth, with border; also other piece-goods on such conditions as the Commissioner may approve; sticks, runners, notches, caps, ferrules, cups, ribs, stretchers, tips, and rings.
350. Union shirtings the invoice value of which does not exceed 6d. the yard.*
351. Waterproof material in the piece.

CLASS VII.—LEATHER, AND ARTICLES USED IN LEATHER MANUFACTURES.

352. Boot-elastic.
353. Bootmakers' linings, canvas, plain or coloured, bag and portmanteau linings, of such materials, qualities, and patterns as may be approved by the Commissioner.
354. Boots, shoes, and slippers—viz., children's, Nos. 0 to 3.
355. Cork soles, and sock soles.
356. East India kip, crust or rough-tanned, but undressed.
357. Goatskins, crust or rough-tanned, but undressed.
358. Grindery, except heel- and toe-plates.
359. Hogskins.
360. Kangaroo-, wallabi-skins, undressed.
361. Leather, japanned or enamelled; goatskins, dressed as morocco, coloured (other than black).
362. Saddle-trees.
363. Saddlers' ironmongery (except bits and stirrup-irons), hames, and mounts for harness; straining, surcingle, brace, girth, and roller-webs; collar-check, and the same article plain, of such quality as may be approved by the Commissioner; legging-buckles.
364. Tanning materials, crude.

CLASS VIII.—FURNITURE, ETC.

365. Blind-webbing and tape.
366. Upholsterers' webbing, hair-seating, imitation hair-seating, curled hair; gimp and cord, of wool, cotton, or silk; tufts and studs.

CLASS IX.—CHINA, GLASS, ETC.

367. Bottles, empty, plain glass, not being cut or ground; also jars up to 3 in. in diameter at the mouth.
368. Glass plates (engraved) for photo-lithographic work.
369. Jars or other dutiable vessels, containing free goods or goods subject to a fixed rate of duty, and being ordinary trade packages for the goods contained in them.

CLASS X.—FANCY GOODS, ETC.

370. Action-work and keys, in frames or otherwise, for manufacture of organs, harmoniums, and pianos; organ-pipes and stop-knobs.
371. Artists' canvas, colours, brushes, and pallet-knives.
372. Magic-lanterns, lenses, and slides.
373. Microscopes and astronomical telescopes, and lenses for same.
374. Musical instruments, specially imported for Volunteer bands.
375. Paintings, statuary, and works of art, presented to or imported by any public institution or art association registered as a body corporate, for display in the buildings of such institution or association, and not to be sold or otherwise disposed of.

* Whenever any dispute arises as to the application of the exemption in favour of coloured cotton, flannelette, or union shirtings, in the case of fabrics alleged to be such shirtings, the Commissioner has power to decide such dispute: and in case of doubt on his part, he may require the fabric in dispute to be cut up for shirt-making, under such conditions as he prescribes.

- 376. Photographic cameras and lenses.
- 377. Photographs of personal friends in letters or packets.
- 378. Precious stones, cut or uncut and unmounted.
- 379. Sensitized surfaces for photographic purposes.

CLASS XI.—PAPER, ETC.

- 80. Bookbinders' materials—viz., cloth, leather, thread, headbands, webbing, end-papers, tacketing-gut, marbling-colours, marble-paper, blue-paste for ruling-ink, staple-presses, wire-staples, staple-sticks.
- 381. Butter-paper, known as parchment paper or waxed paper.
- 382. Cardboard and pasteboard, of sizes not less than that known as "royal."
- 383. Cardboard boxes, materials for—viz., gold and silver paper, plain and embossed, gelatine and coloured papers, known as "box-papers."
- 384. Cartridge paper, for drawing-books.
- 385. Cloth-lined boards, not less than "royal."
- 386. Cloth-lined papers; enamelled-paper; ivorite and gelatine; metallic paper, not less than "demy."
- 387. Copy-books and drawing-books.
- 388. Copying-paper, medium and double-foolscap, in original mill wrappers and labels.
- 389. Hand-made cheque-paper.
- 390. Ink, printing.
- 391. Masticated para.
- 392. Millboard and bookbinders' leather-board.
- 393. Paper, hand-made or machine-made book or writing, of sizes not less than the size known as "demy," when in original wrappers.
- 394. Printing-paper.
- 395. Printed books, papers, and music n.o.e.
- 396. School slates, and educational apparatus.

CLASS XII.—METALS.

- 397. Anchors.
- 398. Artificers' tools.
- 399. Axes and hatchets; spades, shovels, and forks; picks; mattocks; quartz and knapping-hammers; scythes, sheep-shears, reaping-hooks; soldering-irons, paperhangers' scissors; butchers' saws and cleavers.
- 400. Axles, axle-arms, and boxes.
- 401. Band-saws and folding-saws, including frames.
- 402. Bellows nails.
- 403. Bicycles and tricycles, fittings for—viz., rubber-tires, pneumatic-tires, outside covers, and inner tubes; rubber and cork handles, and pedal-rubbers; also drop-forgings and stampings, ball-bearings, weldless steel tube in full lengths, rims, forks, and spokes, in the rough.
- 404. Blacksmiths' anvils, forges, and fans.
- 405. Bolts, 5in. by $\frac{1}{2}$ in. in diameter, and under, and nuts for same.
- 406. Brass and copper, in pigs, bars, tubes, or sheets.
- 407. Brass tubing and stamped work, in the rough, for gasaliers and brackets.
- 408. Caps, percussion.
- 409. Card-clothing for woollen-mills.
- 410. Chains, trace and plough chains; or metal articles required to repair or complete riding or driving harness or saddlery to be repaired or made in the colony.
- 411. Copper and composition rod, bolts, sheathing, and nails.
- 412. Couch-roll jackets, machine-wires, beater-bars, and strainer-plates for paper-mills.
- 413. Crucibles.
- 414. Emery-grinding machines and emery-wheels.
- 415. Empty iron drums, not exceeding 10 gallons capacity.
- 416. Engineers' machine tools.
- 417. Eyelets.

418. Fire-engines, including Merryweather's chemical fire-engines.
419. Fish-hooks.
420. Galvanising-baths, welded.
421. Gas-engines and hammers, and oil-engines.
422. Glassmakers' moulds.
423. Hydraulic cranes.
424. Iron- and brass-wove wire and wire-gauze; also wire netting.
425. Iron boiler-plates and unflanged end-plates for boilers; boiler-tubes not exceeding 6in. in diameter, and unflanged; Bowling's expansion rings; furnace-flues.
426. Iron, plain black sheet, rod, bolt, bar, plate, hoop, and pig.
427. Iron rolled girders.
428. Iron plates, screws, and castings for ships.
429. Iron wire n.o.e., including fencing-wire, plain and barbed.
430. Lead, in pigs and bars.
431. Locomotives.
432. Machine saws.
433. Machinery for gold-saving purposes and processes.
434. Metal fittings for trunks, portmanteaux, travelling-bags, leggings, bags, and satchels.
435. Metal sheaves for blocks.
436. Metallic capsules.
437. Perambulators and the like vehicles, fittings for, n.o.e.
438. Perforated or cellular sheet zinc or iron.
439. Printing type and materials n.o.e.
440. Rails for railways and tramways.
441. Reapers and binders, and reaping and mowing machines, and extra parts for same; materials for manufacturing agricultural machinery—namely, reaper-knife sections, fingers, brass and steel springs, malleable castings, discs for harrows, mould-boards and plough-shares, mould-board plates, and steel share-plates cut to pattern, skeith-plates; ploughs and harrows combined threshers.
442. Riddles and sieves.
443. Rivets and washers.
444. Separators and coolers for dairying purposes.
445. Set-screws, engineers' studs, and split-pins.
446. Sewing-, knitting-, and kilting-machines.
447. Spiral springs (except sofa- and mattress-springs).
448. Steam and hydraulic pressure and vacuum gauges.
449. Surveyors' steel bands and measuring-tapes.
450. Swords.
451. Tacks of all kinds.
452. Tea-packing lead.
453. Tin, in pigs, bars, or sheets.
454. Tin-smiths' fittings, including stamped or blocked tin, planished or unplanished.
455. Tins, tops of, ornamented.
456. Wire, of brass, copper, or lead.
457. Zinc, plain sheet.
458. Zinc plates and copper plates for photo-lithographic work.

CLASS XIII.—TIMBER, ETC.

459. Ash, hickory, and lancewood timber, unwrought.
460. Blacksmiths' bellows.
461. Brush woodware.
462. Carriage- and cart-shafts, spokes and felloes in the rough; hubs, all kinds; poles if unbent and unplaned, all kinds; bent wheel-rims.
463. Carriage- and cart-makers' materials—viz., springs, mountings, trimmings, brass hinges, tire bolts, shackle-holders, step treads, and other iron fittings (except steps, lamp-irons, dash-irons, seat-rails, and fifth wheels), rubber-cloth.

- 464. Churns.
- 465. Lignum-vitæ.
- 466. Sieves, hair.
- 467. Wooden handles for tools.

CLASS XIV.—OILS, ETC.

- 468. Benzine in bulk.
- 469. Oils—viz., candlenut, fish, whale, seal, penguin, and palm.
- 470. Paints and colours n.o.e.
- 471. Shale oil, once run, suitable for gas-making.
- 472. Spirits of tar.
- 473. Turpentine, driers, and terebene.

CLASS XV.—MISCELLANEOUS.

- 474. Apparatus and appliances solely for teaching purposes, as may be approved by the Commissioner.
- 475. Belting for machinery, other than leather.
- 476. Binder-twine.
- 477. Bricks, other than fire-bricks.
- 478. Building materials n.o.e.
- 479. Brushes for cream-separators and combined screens.
- 480. Candlenuts and candlenut kernels.
- 481. Candlewick.
- 482. Canvas aprons and elevators for reapers and binders.
- 483. Carpenters' baskets.
- 484. Charts and maps.
- 485. Cotton waste.
- 486. Dye-stuffs and dyeing materials, crude.
- 487. Felt sheathing.
- 488. Food preservative n.o.e.
- 489. Gum boots.
- 490. Hawseers of 12 in. and over.
- 491. Honey and brown Windsor soap composition.
- 492. Iron and steel cordage.
- 493. Jute bagging, bags, and sacks.
- 494. Manures.
- 495. Marble and other stone, hewn or rough-sawn, not dressed or polished.
- 496. Netmakers' cotton twine.
- 497. Official supplies for consular officers of countries where a similar exemption exists in favour of British Consuls.
- 498. Papermakers' felts.
- 499. Passengers' baggage and effects, including only wearing apparel and other personal effects that have been worn or are in use by persons arriving in the colony; also implements, instruments, and tools of trade, occupation, or employment of such persons; and household or other effects not exceeding £100 in value, which have been in use for twelve months prior to embarkation by the persons or families bringing them to the colony, and not intended for any other person or persons or for sale; also cabin furnishings belonging to such persons.
- 500. Plaster of Paris.
- 501. Powder, blasting and meal.
- 502. Ship-chandlery n.o.e.
- 503. Ships' rockets, blue-lights, and danger-signals.
- 504. Spirits for manufacturing perfumed spirit, flavouring essences, and culinary essences in manufacturing warehouses.*
- 505. Stones, mill, grind, oil, and whet.

* This exemption ceased on the 1st day of February, 1896.

506. Tobacco for sheepwash or. for insecticide, after being rendered unfit for human consumption to the satisfaction of the Commissioner.
507. Treacle or molasses, mixed with bone-black in proportions to the satisfaction of the Commissioner.
508. Tubular woven cotton-cloth in the piece, for meat-wraps.
509. Type-writers.
510. Wax, bottling.
511. Woolpacks and woolpockets.
512. Yarn—viz., coir, flax, hemp.
513. Articles and materials (as may from time to time be specified by the Commissioner) which are suited only for, and are to be used solely in, the fabrication of goods within the colony. All decisions of the Commissioner in reference to articles so admitted free to be published from time to time in the *Gazette*.
514. And all articles not otherwise enumerated.

TABLE OF EXCISE DUTIES.

515. Tobacco, 1s. in the lb.*
516. Cigars, cigarettes, and snuff, 1s. 6d. the lb.*
517. Beer, 3d. the gallon.
518. Articles in which spirit is a necessary ingredient, manufactured in a warehouse appointed under section 26 of "The Customs Laws Consolidation Act, 1882," namely,—
- Pharmacopœia tinctures, essences, extracts, and medicinal spirits containing more than 50 per cent. of proof spirit, 9d. the lb.
 - Pharmacopœia tinctures, essences, extracts, and medicinal spirits containing less than 50 per cent. of proof spirit, 3d. the pound.
 - Culinary and flavouring essences, 12s. the liquid gallon, from 1st February, 1896.
 - Perfumed spirit, 20s. the liquid gallon, from 1st February, 1896.
 - Toilet preparations which are subject to 16s. the liquid gallon on importation, 12s. the liquid gallon.
 - Toilet preparations which are subject to 25 per cent. duty on importation, 6s. the liquid gallon.

DUTIES IMPOSED BY HIS EXCELLENCY THE GOVERNOR UNDER SECTION 17 OF "THE CUSTOMS AND EXCISE DUTIES ACT, 1888."

519. Olive stones, ground (see *New Zealand Gazette*, 15th May, 1890), 4d. the lb.
520. Brewers' oraramel (see *New Zealand Gazette*, 21st August, 1890), 3d. the lb.
521. Liquid hops (see *New Zealand Gazette*, 21st December, 1893), 6s. the lb.
522. The United Asbestos Patent Salamander Decorations (see *New Zealand Gazette*, 14th May, 1896), 15 per cent. *ad valorem*.

* "The Tobacco Excise Duties Act, 1896," section 2, enacts:—

"On and after the thirty-first day of December, one thousand eight hundred and ninety-six, section three of "The Customs and Excise Duties Act, 1891," shall be deemed to be repealed, and in lieu of the duties imposed by that section there shall be levied, collected, and paid, on and after that day, upon tobacco manufactured in the colony, at the time of making the entry for home consumption thereof, the several duties of excise following, that is to say:—

"On tobacco	One shilling the pound,
"On cigars and snuff	One shilling and sixpence the pound.
"On cigarettes—	
If manufactured by machinery	Two shillings and sixpence the pound.
If made by hand	One shilling the pound."

NEW ZEALAND NEWSPAPERS.

THERE are (January, 1898) 200 publications on the register of newspapers for New Zealand. Of these, 50 are daily papers, 28 are published three times a week, 30 twice a week, 63 once a week, 3 fortnightly, and 26 monthly.

The names of the newspapers, with the postal districts and towns in which they are printed, are given in the following list, the second column showing the day or period of publication.

M. signifies morning paper; E. evening paper :—

AUCKLAND.			
Auckland—			
Auckland Evening Star (E.)	..	..	.. Daily.
Auckland Weekly News and Town and Country Journal (M)			.. Saturday
Bible Standard (M.)	..	..	.. Monthly.
Christian Worker	..	..	.. "
Church Gazette (M.)	..	..	.. "
Mining Standard (M.)	..	..	.. Thursday.
New Zealand ABC Guide..	..	..	.. Monthly.
New Zealand Farmer, Bee and Poultry Journal (M.)			.. "
New Zealand Graphic, Ladies' Journal, and Youths' Companion	..	..	.. Wednesday.
New Zealand Herald (M.)..	..	..	.. Daily.
New Zealand Joyful News	..	..	.. Monthly.
Observer (M.)	..	..	.. Saturday.
Produce Circular and Monthly Report (M.)	..	..	.. Monthly.
Sharland's Trade Journal ..	..	..	.. Saturday.
Sporting Review	..	..	.. Thursday, Sat.
Wideawake! and Exchange and Mart (M.)	..	..	.. Saturday.
Coromandel—			
Coromandel County News (E.)	..	..	.. Mon., Wed., Fri.
Coromandel Sun (M.)	..	..	.. Wed., Saturday.
Dargaville—			
Wairoa Bell and Northern Advertiser (M.)	..	..	.. Friday.
Hamilton—			
Waikato Argus (M.)	..	..	.. Tu., Th., Sat.
Waikato Times and Thames Valley Gazette (E.)			.. Daily.
Kawakawa—			
Northern Luminary (E.)	..	..	.. Saturday.
Rotorua—			
Hot Lakes Chronicle (E.)	..	..	.. Saturday.
Whangarei—			
Northern Advocate (E.)	..	..	.. Friday.
THAMES.			
Karangahake—			
Goldfields Advocate and Ohinemuri County Chronicle (M.)	..	..	.. Wed., Sat.
Opotiki—			
Korimako Hou	..	..	.. Monthly.
Opotiki Herald, Whakatane County and East Coast Gazette (E.)	..	..	.. Tuesday, Friday.
Paeroa—			
Hauraki Tribune and Thames Valley Advertiser (M.)	..	..	.. Tu., Th., Sat.
Ohinemuri Gazette (M.)	..	..	.. Wed., Saturday.
Tauranga—			
Bay of Plenty Times and Thames Valley Warden (E.)	..	..	.. Mon., Wed., Fri.

Te Aroha—

Te Aroha and Ohinemuri News and Upper Thames Advocate (M.) Tu., Th., Sat.

Te Aroha Times and Waiorongomai Advocate (M.) Wed., Sat.

Thames—

Thames Star (E.) Daily.

Thames Advertiser and Miners' News (M.) "

Waihi—

Waihi Miner and Hauraki Goldfield Gazette (E.) Tuesday, Friday.

Waitekauri—

Golden Age (E.) Wed., Sat.

GISBORNE.

Gisborne—

Poverty Bay Herald (E.) Daily.

Telephone (M.) Saturday.

NEW PLYMOUTH.

Inglewood—

Record and Waitara Age (M.) Wed., Saturday.

Weekly Record (M.) Saturday.

New Plymouth—

Budget and Taranaki Weekly Herald (M.) "

Daily News (M.) Daily.

Taranaki Herald (E.) Saturday.

Taranaki News (M.) Saturday.

Opunake—

Opunake Times (E.) Tuesday, Friday.

Stratford—

Egmont Post (E.) Tu., Th., Sat.

Egmont Settler (E.) Mon., Wed., Fri.

Waitara—

Waitara Times and Clifton County Gazette (M.) Mon., Wed., Fri.

NAPIER.

Dannevirke—

Bush Advocate (E.) Tues., Thur., Sat.

Hastings—

Hastings Standard (E.) Daily.

Napier—

Daily Telegraph (E.) Daily.

Hawke's Bay Herald (M.) Monthly.

New Zealand Fire and Ambulance Record Monthly.

Waipawa—

Waipawa Mail (E.) Tues., Thur., Sat.

Wairoa—

Wairoa Guardian and County Advocate (M.) Wed., Saturday.

WANGANUI.

Eltham—

Eltham Guardian; Kaponga, Ngaire, Te Roti, Hawera, Stratford, and Cardiff Advertiser (M.) Mon., Wed., Fri.

Hawera—

Egmont Star (M.) Saturday.

Hawera and Normanby Star, Patea County Chronicle, and

Waimate Plains Gazette (E.) Daily.

Hawera Morning Post, Patea, Normanby, Eltham, Stratford, Kaponga, Manaia, and Opunake Register (M.) Tu., Th., Sat.

Hunterville—

Paraekaretu Express, Hunterville, Ohingaiti, Moawhango, and Rata Advertiser (M.) Tuesday, Friday.

Mania—					
Waimate Witness (E.)	..	..	..	..	Tuesday, Friday.
Mangaweka—					
Mangaweka Settler, and Ohingaiti, Rangiwhaia, Taihape, and Waimarino Advertiser (M.)	..	..	..	..	Wed., Sat.
Marton—					
Rangitikei Advocate and Manawatu Argus (E.)	..	..	..	..	Daily.
Patea—					
Patea County Press (E.)	..	..	..	..	Mon., Wed., Fri.
Wanganui—					
Wanganui Chronicle and Patea-Rangitikei Advertiser (M.)	..	..	..	..	Daily.
Wanganui Herald (E.)	..	..	..	..	Saturday.
Weekly Chronicle and Patea-Rangitikei Record (M.)	..	..	..	..	Friday.
Yeoman (M.)	..	..	..	..	
WELLINGTON.					
Carterton—					
Wairarapa Leader (M.)	..	..	..	..	Tu., Th., Sat.
Wairarapa Observer, Featherston Chronicle, East Coast Advertiser, and South County Gazette (E.)	..	..	..	..	Tues., Thur., Sat.
Eketahuna—					
Eketahuna Express and North Wairarapa Courier (M.)	..	..	..	..	Tu., Th., Fri.
Feilding—					
Feilding Star (E.)	..	..	..	..	Daily.
Foxton—					
Foxton Telegraph and West Coast Advertiser (E.)	..	..	..	..	Mon., Wed., Fri.
Manawatu Herald (E.)	..	..	..	..	Tues., Thur., Sat.
Greytown—					
Wairarapa Standard and Featherston Advocate (E.)	..	..	..	..	Mon., Wed., Fri.
Levin—					
Manawatu Farmer and Horowhenua County Chronicle (E.)	..	..	..	..	Mon., Wed., Fri.
Masterton—					
Eketahuna and Pahiatua Mail (M.)	..	..	..	..	Daily.
Wairarapa Daily Times (E.)	..	..	..	..	"
Wairarapa Star (E.)	..	..	..	..	"
Wairarapa Weekly Times (E.)	..	..	..	..	Wednesday.
Weekly Star and Wellington District Advertiser (M.)	..	..	..	..	Thursday.
Otaki—					
Otaki Mail and Horowhenua County and West Coast Advertiser (M.)	..	..	..	..	Tuesday, Friday.
Pahiatua—					
Pahiatua Herald (E.)	..	..	..	..	Mon., Wed., Fri.
Palmerston North—					
Manawatu Daily Standard, Rangitikei Advertiser, and West Coast Gazette (E.)	..	..	..	..	Daily.
Manawatu Daily Times (E.)	..	..	..	..	"
Petone—					
Hutt and Petone Chronicle (M.)	..	..	..	..	Wednesday.
Wellington—					
Church Chronicle (M.)	..	..	..	..	Monthly.
Evening Post (E.)	..	..	..	..	Daily.
Fair Play (E.)	..	..	..	..	Friday.
Guardian (E.)	..	..	..	..	Thursday, fortnightly.
New Zealand Craftsman (M.)	..	..	..	..	Monthly.
New Zealand Cyclists' Touring Club Gazette (M.)	..	..	..	..	"
New Zealand Dairyman and Dairy Messenger (E.)	..	..	..	..	"
New Zealand Field (M.)	..	..	..	..	Friday.
New Zealand Mail, Town and Country Advertiser (M.)	..	..	..	..	Friday.
New Zealand Times (M.)	..	..	..	..	Daily.
Register and Property Investors' Guide	..	..	..	..	Monthly.

Wellington—*continued.*

Wellington Price Current and New Zealand Trade Review (M)	..	..	..	..	Monthly.
Woodville—					
Woodville Examiner (E.)	..	..	..	..	Mon., Wed., Fri.

Blenheim—

BLENHEIM.

Evening Star (E.)	..	..	..	..	Saturday.
Marlborough Daily Times and Town and Country Advertiser (M.)	..	..	..	..	Daily.
Marlborough Express (E.)	..	..	..	..	"
Havelock—					
Pelorus Guardian and Miners' Advocate (M.)	..	..	..	..	Tuesday, Friday.
Pictou—					
Marlborough Press, County of Sounds Gazette (M.)	..	..	..	..	Tuesday, Friday.

Brightwater—

NELSON.

Brightwater Independent Chronicle (M.)	..	..	..	..	Thursday.
Collingwood—					
Golden Bay Argus (E.)	..	..	..	..	Thursday.
Nelson—					
Colonist (M.)	..	..	..	..	Daily.
Nelson Evening Mail (E.)	..	..	..	..	"
Takaka—					
Takaka News and Collingwood Advertiser (E.)	..	..	..	..	Thursday.

Charleston—

WESTPORT.

Charleston Herald, Brighton Times, and Croninville Reporter (M.)	..	..	..	..	Wed., Saturday.
Lyell—					
Lyell Times and Central Buller Gazette (M.)	..	..	..	..	Saturday.
Murchison—					
Buller Post (E.)	..	..	..	..	Thursday.
Westport—					
Buller Miner (M.)	..	..	..	..	Friday.
Westport News (M.)	..	..	..	..	Daily.
Westport Times and Evening Star (E.)	..	..	..	..	"

Brunnerton—

GREYMOUTH.

Brunner News, Blackball Courier, and Grey Valley Advertiser (E.)	..	..	..	..	Daily.
Greymouth—					
Evening Star and Brunnerton Advocate (E.)	..	..	..	..	"
Grey River Argus (M.)	..	..	..	..	"
Weekly Argus (M.)	..	..	..	..	Weekly.
Reefton—					
Inangahua Herald and New Zealand Miner (M.)	..	..	..	..	Daily.
Inangahua Times and Reefton Guardian (E.)	..	..	..	..	"

Hokitika—

HOKITIKA.

Hokitika Guardian and Evening Star (E.)	..	..	..	..	Daily.
Leader (M.)	..	..	..	..	Thursday.
West Coast Times (M.)	..	..	..	..	Daily.

Kumara—

Kumara Times and Dillman's and Goldsborough Advertiser (E.)	..	..	..	..	"
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Ross—

Ross and Okarito Advocate and Westland Advertiser (M.)	..	..	..	..	Wed., Saturday.
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AKAROA.—		CHRISTCHURCH.	
Akaroa Mail and Banks Peninsula Advertiser (M.)	..	Tuesday, Friday.	
ASHBURTON.—			
Ashburton Guardian (E.)	..	Daily.	
Ashburton Mail, Rakaiia, Mount Somers, and Alford Forest Advertiser (M.)	..	Tues., Thur., Sat.	
Ashburton Standard and Farmers' Advocate (M.)	..	Mon., Wed., Fri.	
CHRISTCHURCH.—			
Canterbury Times (M.)	..	Thursday.	
Colonial Inventor	..	Monthly.	
Lyttelton Times (M.)	..	Daily.	
Mercantile and Bankruptcy Gazette of New Zealand (E.)	..	Thursday.	
New Zealand Baptist	..	Monthly.	
New Zealand Church News (M.)	..	"	
New Zealand Cyclist (M.)	..	Saturday.	
New Zealand Railway Review	..	Monthly.	
New Zealand Schoolmaster (E.)	..	"	
New Zealand War Cry and Official Gazette of the Salvation Army (M.)	..	Saturday.	
New Zealand Wheelman	..	Wednesday.	
Press (M.)	..	Daily.	
Prohibitionist	..	Fortnightly, Fri.	
Spectator (M.)	..	Thursday.	
Star (E.)	..	Daily.	
Truth (E.)	..	Daily.	
Weekly Press (M.)	..	Wednesday.	
OXFORD (EAST).—			
Oxford Observer (M.)	..	Saturday.	
KAIKOURA.—			
Kaikoura Star and North Canterbury and South Marlborough News (E.)	..	Tu., Fri.	
RANGIORA.—			
Rangiora Standard and North Canterbury Guardian (M.)	..	Wed., Saturday.	
SOUTHBRIDGE.—			
Ellesmere Guardian (M.)	..	"	
TEMUKA.—		TIMARU.	
Geraldine Guardian (M.)	..	Tues., Thur., Sat.	
Temuka Leader (M.)	..	"	
TIMARU.—			
South Canterbury Times (E.)	..	Daily.	
Timaru Herald (M.)	..	"	
WAIMATE.—			
Waimate Times (M.)	..	Wed., Saturday.	
OAMARU.—		OAMARU.	
North Otago Times (M.)	..	Daily.	
Oamaru Mail (E.)	..	"	
ALEXANDRA SOUTH.—		DUNEDIN.	
Alexandra Herald and Central Otago Gazette (M.)	..	Thursday.	
BALCLUTHA.—			
Clutha Leader (M.)	..	Friday.	
Free Press (M.)	..	"	
CLYDE.—			
Dunstan Times, Vincent County Gazette, and General Goldfields Advertiser (M.)	..	Friday.	
CROMWELL.—			
Cromwell Argus and Northern Goldfields Gazette (M.)	..	Tuesday.	

Dunedin—					
Advocate (M.) ..	..	..	..	..	Saturday.
Christian Outlook (M.) ..	..	..	..	..	..
Democrat (M.) ..	..	..	..	..	Thursday.
Evening Star (E.) ..	..	..	..	..	Daily.
Farmers' Circular (M.) ..	..	..	..	..	Thur., fortn'y.
Katipo ..	..	..	..	..	Monthly.
New Zealand Insurance, Finance, and Mining Journal (M.) ..	..	..	..	..	"
New Zealand Mining Journal and Financial Guide (M.) ..	..	..	..	..	"
New Zealand Tablet (M.) ..	..	..	..	..	Friday.
Otago Daily Times (M.) ..	..	..	..	..	Daily.
Otago Witness (M.) ..	..	..	..	..	Thursday.
Otago Workman, Dunedin and Suburban Advertiser (M) ..	..	..	..	..	Saturday.
Phonographic Magazine and Typewriting News ..	..	..	..	..	Monthly.
Temperance Standard ..	..	..	..	..	"
Triad (M.) ..	..	..	..	..	"
Weekly Budget (M.) ..	..	..	..	..	Saturday.
Lawrence—					
Tuapeka Recorder (M.) ..	..	..	..	..	Friday.
Tuapeka Times (M.) ..	..	..	..	..	Wed., Saturday.
Milton—					
Bruce Herald (M.) ..	..	..	..	..	Tuesday, Friday.
Mosgiel—					
Taieri Advocate (M.) ..	..	..	..	..	Wed., Saturday.
Naseby—					
Mount Ida Chronicle (E.) ..	..	..	..	..	Friday (twice).
Palmerston—					
Palmerston and Waikouaiti Times (M.) ..	..	..	..	..	Friday.
Roxburgh—					
Mount Benger Mail (M.) ..	..	..	..	..	Saturday.
Tapanui—					
Tapanui Courier and Central Districts Gazette (M.) ..	..	..	..	..	Wednesday.
Arrowtown—					
INVERCARGILL.					
Lake County Press (E.) ..	..	..	..	..	Thursday.
Gore—					
Mataura Ensign (E.) ..	..	..	..	..	Tues., Th., Sat.
Southern Standard (M.) ..	..	..	..	..	Tuesday, Friday.
Invercargill—					
Southern Cross (E.) ..	..	..	..	..	Saturday.
Southlander (M.) ..	..	..	..	..	Friday.
Southland Daily News (E.) ..	..	..	..	..	Daily.
Southland Times (M.) ..	..	..	..	..	"
Weekly Times (M.) ..	..	..	..	..	Friday.
Queenstown—					
Lake Wakatipu Mail (E.) ..	..	..	..	..	"
Riverton—					
Western Star and Wallace County Gazette (M.) ..	..	..	..	..	Wed., Saturday.
Winton—					
Winton Record and Hokonui Advocate (M.) ..	..	..	..	..	Friday.
Wyndham—					
Wyndham Farmer (M.) ..	..	..	..	..	Mon., Wed., Fri.
Wyndham Herald (M.) ..	..	..	..	..	Wed., Friday.

The foregoing towns are arranged according to the postal district in which they are situated.

Taking the provincial districts, Auckland has 38 publications registered as newspapers, Taranaki 10, Hawke's Bay 7, Wellington 44, Marlborough 6, Nelson 12, Westland 10, Canterbury 29, and Otago 44.

PART II.—STATISTICAL INFORMATION.

[The progress of the colony from the beginning is shown in the statistical broadsheets which follow the General Index.]

SECTION I.—POPULATION.

THE estimated population of New Zealand on the 31st December, 1897, with the increase for the year, is shown below :

	Persons.	Males.	Females.
Estimated population (exclusive of Maoris) on 31st December, 1896	714,162	376,987	337,175
Increase during year 1897 :—			
By excess of births over deaths	12,142	5,813	6,329
Excess of arrivals over departures	2,752	1,903	849
Estimated population, exclusive of Maoris, on 31st December, 1897	729,056	384,703	344,353
Maori population (1896)	39,854	21,673	18,181
Total estimated population of Colony on 31st December, 1897	<u>768,910</u>	<u>406,376</u>	<u>362,534</u>

The number of the Chinese in New Zealand at the end of the year 1897 was 3,585 persons, of whom 29 were females.

During the first two quarters of the year the population increased by 5,132 persons, while for the six months ended December, 1897, the increase was 9,762. In the March quarter the arrivals exceeded the departures by 528, but in the June quarter the departures were 1,519 in excess of the arrivals. During the September quarter there was a change, the arrivals being 680 in excess of the departures. In the December quarter the net gain by arrivals was as high as 3,063 persons. A table is given to show these movements :—

INCREASE OF POPULATION IN EACH QUARTER, 1897.

	First Quarter.	Total.	Males.	Females.
Increase from:				
Excess of births over deaths		2,959	1,425	1,534
Excess of arrivals over departures		528	455	73
		<u>3,487</u>	<u>1,880</u>	<u>1,607</u>
Second Quarter.				
Excess of births over deaths		3,164	1,540	1,624
Excess of departures over arrivals (decrease)		-1,519	-1,011	-508
		<u>1,645</u>	<u>529</u>	<u>1,116</u>

		<i>Third Quarter.</i>		
Increase from:		Total.	Males.	Females.
Excess of births over deaths .. ..	.. ..	2,936	1,376	1,560
Excess of arrivals over departures.. ..	.. ..	680	529	151
		<u>3,616</u>	<u>1,905</u>	<u>1,711</u>
		<i>Fourth Quarter.</i>		
Excess of births over deaths .. ..	.. ..	3,083	1,472	1,611
Excess of arrivals over departures.. ..	.. ..	3,063	1,930	1,133
		<u>6,146</u>	<u>3,402</u>	<u>2,744</u>
		<i>Year 1897.</i>		
Excess of births over deaths .. ..	.. ..	12,142	5,813	6,329
Excess of arrivals over departures.. ..	.. ..	2,752	1,903	849
		<u>14,894</u>	<u>7,716</u>	<u>7,178</u>

The total population of European descent (729,056 persons) at the end of 1897 was distributed among the provincial districts as under :—

ESTIMATED POPULATION IN PROVINCIAL DISTRICTS, 31ST DEC., 1897.

		Persons.			Persons.
Auckland .. ..	.. ..	159,216	Canterbury .. ..	.. ..	140,438
Taranaki .. ..	.. ..	32,721	Otago .. ..	.. ..	169,324
Hawke's Bay .. ..	.. ..	35,561	Chatham Islands .. ..	.. ..	243
Wellington .. ..	.. ..	126,856	Kermadec Islands .. ..	.. ..	7
Marlborough .. ..	.. ..	12,969			
Nelson .. ..	.. ..	36,946			729,056
Westland .. ..	.. ..	14,775			

CENSUS, 1896.

The population of the colony (exclusive of Maoris), as returned in the census schedules for the night of the 12th April, 1896, was 703,360 persons, of whom 3,711 were Chinese, and 2,259 half-castes living amongst and as Europeans.

A census of the Maori population was taken during February of 1896, when the number of the Native race was found to be 39,854 persons, including 3,503 half-castes living as Maoris. 229 Maori women were returned as married to European husbands. The complete population (European and Maori) of the colony was therefore 743,214 persons, as exhibited in the following statement, specifying the numbers for each sex :—

	Persons.	Males.	Females.
Population (exclusive of persons of the aboriginal native race, of mixed European and Native blood, and Chinese)	697,390	366,607	330,783
Half-castes and persons of mixed race living as and among Europeans	2,259	1,123	1,136
Chinese	3,711	3,685	26
Aboriginal natives (including 229 Maori wives of Europeans)	36,351	19,729	16,622
Half-castes and persons of mixed race living among and as members of Maori tribes	3,503	1,944	1,559
Total population on 12th April, 1896	<u>*743,214</u>	<u>393,088</u>	<u>350,126</u>

* Not including 171 persons, officers and crew of a British man-of-war.

The total half-caste or mixed European and Native population was 5,762 persons. The number of half-castes living among Europeans increased since 1891 by 75, or at the rate of 3·4 per cent. In that year the number of Maori wives of Europeans was 251; in 1896 it was 229. The Chinese decreased from 4,444 at the time of the census of 1891 to 3,711 in April, 1896; or at the rate of 16·5 per cent., caused mainly by the excess of departures over arrivals.

The Maori population fell from 41,993 in 1891 to 39,854 in 1896, according to the returns.

The increase on the total European population between April, 1891, and April, 1896, amounted to 76,702 persons, or a rate of 12·24 per cent. Between the census of 1886 and that of 1891 the numerical increase was 48,176 persons, or 8·33 per cent., so that an improved progress was made during the last five-year period to the extent of 3·91 per cent. The average annual increase in the period 1891-96 was at the rate of 2·33 per cent.

The population of the principal divisions of the colony in April, 1896, was—

	Persons.	Males.	Females.
North Island and adjacent islets (exclusive of Maoris)	340,631	181,089	159,542
Middle Island and adjacent islets (exclusive of Maoris)	362,236	190,038	172,198
Stewart Island	252	152	100
Chatham Islands (exclusive of Natives)	234	132	102
Kermadec Islands	7	4	3
Total for the colony (exclusive of Maoris)	<u>703,360</u>	<u>371,415</u>	<u>331,945</u>

During the interval between the censuses of April, 1891, and April, 1896, the increase of population in the North Island was far in excess of the increase in the Middle Island. The figures are: North Island, 1891, 281,455 persons, against 340,631 in 1896, a difference of 59,176, or at the rate of 21·03 per cent.; Middle Island, 1891, 344,711 persons, against 362,236 in 1896, a difference of only 17,525, or 5·08 per cent. The European population of Stewart Island increased from 202 to 252, and that of the Chatham Islands fell from 271 to 234 persons. The Kermadec Islands appeared for the first time in 1891 as part of New Zealand, with a population of 19 persons; the population is now only 7 persons. During the period 1886-91 the increase for the North Island was 30,973 persons, or a rate of 12·37 per cent; and of the Middle Island 17,119, or 5·23 per cent.; so that the North Island has advanced with more rapid strides in the quinquennium 1891-96 than in the previous one; while the rate of progress in the Middle Island has for both periods been but 5 per cent., or less than the natural increase by excess of births over deaths.

POPULATION OF PROVINCIAL DISTRICTS.

The following table gives the numbers of males and females in each provincial district in April, 1891, and April, 1896, and also for the Chatham and Kermadec Islands:—

Provincial Districts.	April, 1891.			April, 1896.		
	Persons.	Males.	Females.	Persons.	Males.	Females.
Auckland ..	133,159	69,891	63,268	153,564	81,206	72,358
Taranaki ..	22,065	11,757	10,308	31,175	16,900	14,275
Hawke's Bay ..	28,506	15,744	12,762	34,038	18,397	15,641
Wellington ..	97,725	52,375	45,350	121,854	64,586	57,268
Marlborough ..	12,767	7,069	5,698	12,483	6,704	5,779
Nelson ..	34,770	19,448	15,322	35,734	19,574	16,160
Westland ..	15,887	9,255	6,632	14,469	8,106	6,363
Canterbury ..	128,392	66,105	62,287	135,858	69,708	66,150
Otago ..	153,097	81,073	72,024	163,944	86,098	77,846
Chatham Islands	271	149	122	234	132	102
Kermadec Islands	19	11	8	7	4	3
Totals ..	626,658	332,877	293,781	703,360	371,415	331,945

The numerical and centesimal increases for the provincial districts during the periods 1886-91 and 1891-96 were:—

Provincial Districts.	1886-91.		1891-96.	
	Numerical.	Per-centage.	Numerical.	Per-centage.
Auckland ..	Increase, 2,780	2·13	Increase, 20,405	15·32
Taranaki ..	" 4,066	22·59	" 9,110	41·29
Hawke's Bay ..	" 3,938	16·03	" 5,532	19·41
Wellington ..	" 20,189	26·04	" 24,129	24·69
Marlborough ..	" 1,654	14·88	Decrease, — 284	— 2·22
Nelson ..	" 4,567	15·12	Increase, 964	2·77
Westland ..	Decrease, — 44	— 0·28	Decr., — 1,418	— 8·93
Canterbury ..	Increase, 6,992	5·76	Increase, 7,466	5·82
Otago ..	" 3,943	2·64	" 10,847	7·09

Of the total increase in the period 1891-96, amounting to 76,702 persons for the colony, or 12·24 per cent., more than one-half took place in the Wellington and Auckland Provincial Districts; the numbers by way of increase for those districts being 24,129, or 24·69 per cent., and 20,405, or 15·32 per cent., respectively. But the largest proportional advance was in Taranaki, being the really excellent increase of 41·29 per cent. Hawke's Bay shows an increase of 19·41 per cent. The population of Otago increased 7·09 per cent. only; Canterbury still less, 5·82 per cent.; while in Marlborough there was an actual decrease for the quinquennium of 2·22 per cent., and in Westland the decrease of population was at the rate of 8·93 per cent. The advantage is strikingly in favour of the provincial districts of the North Island, as pointed out previously. The rate of progress in 1891-96 was greater than that in 1886-91 in Auckland, Taranaki, Hawke's Bay, and Otago, being nearly the same in Wellington and Canterbury. At Nelson the progress was decidedly less in the later period, and in Westland there is further decline noticed. Marlborough, which showed an increase for 1886-91, now shows a loss.

POPULATION OF COUNTIES.

New Zealand is, by "The Counties Act, 1876," divided into counties and boroughs, excepting certain outlying islands, which are not within county boundaries. It is provided by the above-mentioned Act that boroughs shall not be included in counties. In April, 1896, the number of the counties was 81. Of these, the North Island had 47, with a population amounting altogether to 191,374 persons. The Middle Island had 33 counties, the population being 200,117 persons. Stewart Island is a county in itself, and has a population of 244 persons. The names and populations of the various counties in the colony were as under at the date of the enumeration:—

Counties.	Census, 1896.	Census, 1891.	Increase or Decrease.	Counties.	Census, 1896.	Census, 1891.	Increase or Decrease.
Mongonui ...	1,889	1,389	Inc. 500	Patangata ...	2,374	2,044	Inc. 330
Whangaroa ...	969	878	" 91	Pahiatua ...	3,208	...	...
Hokianga ...	1,909	1,494	" 415	Wairarapa			
Bay of Islands ...	2,723	2,562	" 161	North ...	7,209	5,143	" 2,066
Hobson ...	3,750	3,298	" 452	South ...	5,409	4,980	" 429
Whangarei ...	6,847	6,120	" 727	Hutt ...	5,750	...	...
Otamatea ...	2,483	2,054	" 429	Sounds ...	747	720	" 27
Rodney ...	3,464	3,170	" 294	Marlborough ...	6,330	6,520	Dec. 190
Waitemata ...	6,762	6,184	" 578	Kaikoura ...	1,575	1,460	Inc. 115
Eden ...	15,940	13,782	" 2,158	Collingwood ...	2,509	2,103	" 406
Manukau ...	12,185	11,925	" 260	Waimea ...	8,591	...	...
Coromandel ...	4,987	2,846	" 2,141	Buller ...	4,833	4,659	" 174
Thames ...	4,515	4,340	" 175	Inangahua ...	4,254	4,648	Dec. 394
Ohinemuri ...	4,761	1,516	" 3,245	Grey ...	4,592	4,330	Inc. 262
Piako ...	2,706	2,517	" 189	Westland ...	4,723	5,031	Dec. 308
Waikato ...	2,814	2,738	" 76	Amuri ...	916	967	" 51
Waipa ...	3,584	3,395	" 189	Cheviot ...	1,042	164	Inc. 878
Raglan ...	1,545	1,000	" 455	Ashley ...	11,913	12,396	Dec. 483
Kawhia ...	598	398	" 290	Selwyn ...	30,090	...	...
West Taupo ...	156	119	" 37	Akaroa ...	3,886	3,771	Inc. 115
East Taupo ...	232	152	" 80	Ashburton ...	10,820	9,501	" 1,319
Rotorua ...	840	418	" 422	Geraldine ...	7,499	14,588	" 634
Tauranga ...	1,622	1,393	" 229	Levels ...	7,723	...	...
Whakataane ...	1,988	1,524	" 464	Mackenzie ...	1,514	1,180	" 334
Waipapua ...	447	379	" 68	Waimate ...	4,777	4,043	" 734
Cook ...	5,287	3,945	" 1,342	Waitaki ...	8,876	8,375	" 501
Clifton ...	1,450	908	" 542	Waihemo ...	2,148	2,040	" 108
Taranaki ...	9,070	7,905	" 2,065	Waikouaiti ...	4,389	4,334	" 55
Stratford ...	5,141	2,521	" 2,620	Peninsula ...	2,645	2,701	Dec. 56
Hawera ...	6,934	4,347	" 2,587	Taieri ...	6,950	7,079	" 129
Patea ...	3,084	2,608	" 476	Bruce ...	4,828	4,696	Inc. 133
Waitotara ...	2,737	2,255	" 482	Tuapeka ...	6,477	6,327	" 150
Wanganui ...	3,095	2,281	" 814	Clutha ...	6,504	5,574	" 900
Rangitikei ...	6,030	4,438	" 1,592	Maniototo ...	3,742	2,927	" 815
Kiwaita ...	2,428	...	" 2,811	Vincent ...	4,090	3,718	" 372
Oroua ...	6,450	7,418	" 2,811	Lake ...	2,863	2,919	Dec. 256
Pohangina ...	1,351	...	" 16	Southland ...	21,603	...	...
Manawatu ...	2,709	2,725	Dec. 16	Wallace ...	6,657	5,306	Inc. 1,351
Horowhenua ...	3,792	2,289	Inc. 1,503	Fiord ...	151	71	" 80
Hawke's Bay ...	6,894	6,028	" 866	Stewart Island	244	203	" 42
Wairoa ...	1,490	1,246	" 244				
Waipawa ...	8,866	...	...				

As before stated, the total county population amounted to 391,735, or 55.69 per cent. of the total for the colony.† In counties are included all towns not constituted municipal boroughs; but, on the other hand, the people living in many of the boroughs can hardly be called townsmen. The population in boroughs, which is given in detail further on, was 307,294 persons, or 43.69 per cent. of the

* Sundry boroughs were cut out from these counties between 1891 and 1896.

† For population of ridings, road districts, and localities, see Census volume, p. 32, Part I.

whole. For every 100 persons resident in counties in 1896 there were 78 residing in boroughs. In 1891 the counties had 352,097 persons, and the boroughs 270,343, or, in other words, for every 100 persons in counties, 76 were residents of the boroughs. Thus it will be seen that the proportion of the town to the county population was slightly greater in 1896 than in 1891.

POPULATION OF BOROUGHS AT DATE OF CENSUS.

There were 95 municipal boroughs in existence when the census of 1896 was taken. This was an increase of 8 on the number in 1891. Some of the new boroughs were town districts in 1891. In the following tables no populations are given for 1891 in respect of boroughs incorporated after that date, as a true comparison cannot well be made.

Boroughs.	Census, 1896.	Census, 1891.	Increase or Decrease.	Boroughs.	Census, 1896.	Census, 1891.	Increase or Decrease.
Birkenhead ...	600	455	Inc. 235	Woolston ...	2,057	...	...
Devonport ...	3,010	2,455	Inc. 555	Sumner ...	588	...	...
Auckland ...	31,424	28,613	" 2,811	Lyttelton ...	3,898	4,087	Dec. 189
Newton ...	2,379	2,087	" 292	Akaroa ...	613	571	Inc. 42
Newmarket ...	1,929	1,586	" 343	Ashburton ...	2,062	1,900	" 162
Parnoll ...	4,196	3,967	" 229	Timaru ...	3,613	3,668	Dec. 55
Oneluaga ...	2,913	2,924	Dec. 11	Waimate ...	1,286	1,379	" 93
Thames ...	4,261	4,618	" 357	Oamaru ...	6,225	6,621	" 396
Hamilton ...	1,248	1,212	Inc. 36	Hampton ...	353	300	Inc. 53
Cambridge ...	865	850	Inc. 15	Palmerston ...	775	790	Dec. 15
Tauranga ...	1,018	1,055	Dec. 37	South ...	760	743	Inc. 17
Gisborne ...	2,334	2,158	Inc. 176	Hawkesbury ...	1,901	2,028	Dec. 127
New Plymouth ...	3,825	3,350	" 475	Port Chalmers ...	...	...	...
Hawera ...	1,770	1,284	" 486	North-east ...	...	...	...
Patea ...	739	676	" 63	Valley ...	3,374	3,337	Inc. 37
Wanganui ...	5,936	5,011	" 925	Maori Hill ...	1,483	1,426	" 57
Marton ...	1,151	976	" 175	West Harbour ...	1,366	1,297	" 69
Feilding ...	2,045	1,583	" 462	Dunedin ...	22,815	22,376	" 439
Palmerston ...	...	...	...	Roslyn ...	4,118	3,845	" 273
North ...	5,910	4,303	" 1,607	Morrington ...	3,584	3,623	" 61
Foxton ...	1,102	1,223	Dec. 121	Caversham ...	4,763	4,690	" 73
Hastings ...	3,190	2,303	Inc. 887	St. Kilda ...	1,185	1,153	" 32
Napier ...	9,231	8,341	" 890	South Dunedin ...	4,592	4,222	" 370
Dannevirke ...	1,415	...	...	Green Island ...	663	687	Dec. 24
Woodville ...	1,060	971	" 89	Mosgiel ...	1,382	1,304	Inc. 78
Pahiatua ...	1,158	...	...	Milton ...	1,139	1,158	Dec. 19
Masterton ...	3,493	3,114	" 379	Kaitangata ...	1,362	1,145	Inc. 217
Carterton ...	1,291	1,112	" 179	Lawrence ...	996	1,026	Dec. 30
Greytown ...	1,129	1,141	Dec. 12	Roxburgh ...	433	410	Inc. 23
Lower Hutt ...	1,520	1,320	Inc. 191	Tapanui ...	408	428	Dec. 20
Petone ...	2,685	2,178	" 507	Balclutha ...	925	867	Inc. 58
Onslow ...	1,249	979	" 270	Naseby ...	447	496	Dec. 49
Wellington ...	37,441	31,021	" 6,420	Cromwell ...	539	474	Inc. 65
Karori ...	1,024	...	...	Alexandra ...	454	310	" 144
Melrose ...	2,044	1,224	" 820	Arrowtown ...	409	426	Dec. 17
Picton ...	870	768	" 82	Queenstown ...	781	779	Inc. 2
Blenheim ...	3,018	3,294	Dec. 276	Gore ...	2,032	1,618	" 414
Nelson ...	6,659	6,626	Inc. 33	Mataura ...	789	...	...
Richmond ...	562	...	...	Winton ...	397	288	" 109
Westport ...	2,424	2,622	Dec. 198	Invercargill ...	5,632	4,950	" 682
Greymouth ...	3,099	3,787	" 688	North Inver-	...	...	...
Brunner ...	1,632	2,231	" 599	cargill ...	877	717	" 160
Kumara ...	1,149	1,176	" 27	South Inver-	...	...	...
Hokitika ...	2,059	2,178	" 119	cargill ...	1,886	1,559	" 327
Ross ...	727	822	" 95	East Invercar-	...	...	...
Rangiora ...	1,869	1,783	Inc. 86	gill ...	935	736	" 199
Kaipoi ...	1,828	1,371	" 457	Avenal ...	327	303	" 25
Christchurch ...	16,964	16,223	" 741	Gladstone ...	339	287	" 52
Linwood ...	6,115	...	...	Campbelltown ...	1,075	650	" 425
St. Albans ...	5,781	5,247	" 534	Riverton ...	893	843	" 50
Sydenham ...	10,312	9,680	" 632				

* Boroughs constituted since 1891.

The Cities of Auckland, Christchurch, and Dunedin have considerable suburbs. The suburban population of Wellington is comparatively small. The following gives the names and populations, at census time, of the several localities which may fairly be termed suburbs of the four principal boroughs:—

SUBURBS OF AUCKLAND.			SUBURBS OF CHRISTCHURCH.		
Boroughs—	Population,		Boroughs—	Population,	
	1896.			1896.	
Birkenhead	690		St. Albans	5,781	
Devonport	3,010		Sydenham	10,312	
Newmarket	1,929		Linwood	6,115	
Newton	2,379		Woolston	2,037	
Parnell	4,196		Road Districts—		
Road Districts—			Avon (part)	2,962	
Arch-hill	1,557		Heathcote (part) ..	1,980	
Eden Terrace	1,604		Riccarton (part) ..	3,657	
Epsom	660		Spreydon	1,278	
Mount Albert	1,668		Halswell (part) ..	224	
Mount Eden	3,677				
Mount Roskill	495		Total suburbs	34,366	
One-tree Hill	975		Christchurch City ..	16,964	
Point Chevalier ..	591				
Remuera	2,034		Total Christchurch		
Northcote Riding ..	530		and suburbs	51,330	
Outlying portion of Parnell					
Riding, being land in the					
Domain with hospital on it	197				
Total suburbs	26,192				
Auckland City	31,424				
Total Auckland and					
suburbs	57,616				
SUBURBS OF WELLINGTON.			SUBURBS OF DUNEDIN.		
Boroughs—	Population,		Boroughs—	Population,	
	1896.			1896.	
Onslow	1,249		Caversham	4,763	
Melrose	2,044		Maori Hill	1,483	
Karori	1,024		Mornington	3,584	
			North-East Valley ..	3,374	
Total suburbs	4,317		Roslyn	4,118	
Wellington City	37,441		St. Kilda	1,185	
			South Dunedin	4,592	
Total Wellington and			West Harbour	1,366	
suburbs	41,758				
			Total suburbs	24,465	
			Dunedin City	22,815	
			Total Dunedin and		
			suburbs	47,280	

[For estimated populations, calculated since the census, see Vital Statistics of Chief towns; and for all boroughs, under Local Bodies' Finance.]

The increase of population for five years at the four chief centres, with their suburbs, was:—

	Census, 1891.	Census, 1896.	Numerical Increase.	per Cent.
Auckland and suburbs ..	51,287	57,616	6,329	12·3
Wellington and suburbs ..	34,190	41,758	7,568	22·1
Christchurch and suburbs ..	47,846	51,330	3,484	7·3
Dunedin and suburbs ..	45,869	47,280	1,411	3·1

Thus the two principal cities of the North Island are found to

have progressed at a greater rate than those of the Middle Island, and Wellington in particular to have developed at seven times the rate of Dunedin and three times as fast as Christchurch during the quinquennium. While New South Wales and Victoria present what is termed by the statistician of the former colony "the disquieting spectacle of capital towns growing with wonderful rapidity, and embracing in their limits one-third of the population of the territory of which they are the centre," New Zealand is saved from this by the configuration of the country, which has resulted in the formation of four chief towns, besides others of secondary importance but which are trading centres.

POPULATION OF TOWN DISTRICTS AND SMALL CENTRES.

Besides the boroughs, there are 39 town districts (not including the special town district of Rotorua, constituted under "The Thermal-Springs Districts Act, 1881,") which are portions of the counties in which they are situated. Two only of these, Stratford and Hampstead, have more than 1,000 inhabitants. A list of these town districts is subjoined:—

Town Districts.	Population.	Town Districts.	Population.
Kamo	222	Clyde (Wairoa)	579
Whangarei	744	Taradale	807
Helensville	564	Ormondville	453
Papakura	274	Waipawa	764
Te Aroha	672	Kaikoura North	301
Te Awamutu	347	Featherston	711
Kihikihi	202	Johnsonville	493
Ngaruawahia	235	Havelock	365
Rotorua*	499	Amberley	437
Opotiki	641	Southbridge	494
Waitara (Raleigh)	517	Hampstead	1,214
Opunake	400	Tinwald	538
Inglewood	658	Geraldine	841
Stratford	1,256	Temuka	660
Normanby	396	Arowhenua	789
Manaia	471	Allanton (formerly Grey)	274
Waverley	442	Outram	452
Lethbridge	251	Clinton	474
Bulls	521	Wyndham	483
Halecombe	376	Otautau	367

In addition to the boroughs and town districts above referred to, the census results showed throughout the colony no less than 561 places of the nature of townships, villages, or small centres without boundaries. It is impossible to say that the populations of these small centres are all strictly accurate, or given in such a way as to be fit for comparison one with another. In different cases more or less of surrounding country may have been considered as belonging to the centre, but there is at least at each place mentioned some sort of nucleus of population, if not a well-defined village or township. In making the statement the best has been done with a

* Constituted under "The Thermal-Springs Districts Act, 1881."

difficult matter, and the information is given as useful—in some cases, like that of Reefton, important—even if open to objection here and there. The county in which each is situated is also given:—

	Population.		Population.
Abbotsford, Taieri ..	197	Bunnythorpe (and vicinity),	
Adair, Levels ..	127	Oroua ..	309
Adams's Flat (and vicinity),		Burke's, Mackenzie ..	90
Bruce ..	72	Burnside, Taieri ..	159
Adamson's, Southland ..	80	Cabbage Bay, Coromandel ..	133
Addington, Selwyn ..	480	Calcium, Wallace ..	31
Addison's Flat, Buller ..	277	Callaghan's, Westland ..	47
Ahaura, Grey ..	252	Cambrian's Maniototo ..	134
Albert Town, Vincent ..	52	Cambridge West, Waipa ..	255
Albury, Mackenzie ..	96	Canvastown, Marlborough ..	54
Alford Forest, Ashburton ..	426	Cape Foulwind, Buller ..	223
Alfredton, Wairarapa North ..	88	Capleston, Inangahua ..	170
Allandale, Waihemo ..	93	Cardrona, Lake ..	176
Allenton, Ashburton ..	763	Castlecliffe, Waitotara ..	269
Alma, Waitaki ..	158	Castlepoint, Wairarapa North ..	31
Alton, Patea ..	72	Caversham, Levels ..	37
Anderson's Bay, Peninsula ..	489	Centre Bush, Southland ..	66
Annat, Selwyn ..	72	Charleston Buller ..	151
Antonio's Flat, Inangahua ..	59	Charlton, Southland ..	32
Aongatete, Tauranga ..	33	Cheltenham, Kiwitea ..	43
Apiri, Pohangina ..	110	Chertsey, Ashburton ..	93
Aratapu, Hobson ..	508	Clareville, Wairarapa South ..	46
Arden, Taieri ..	85	Clifton, Collingwood ..	58
Arthurtown, Westland ..	51	Clyde Vincent ..	310
Arundel, Geraldine ..	78	Coalbrookdale, Buller ..	165
Ashley, Ashley ..	70	Coal Creek, Tuapeka ..	305
Ashurst, Oroua ..	361	Coalgate, Selwyn ..	116
Athol, Southland ..	85	Cobden, Grey ..	274
Avondale, Eden ..	872	Courtenay, Selwyn ..	67
Awanui, Waiau ..	43	Crofton, Rangitikei ..	113
Bainfield, Southland ..	114	Cromarty (and vicinity), Fiord ..	39
Bainham, Collingwood ..	106	Crushington, Inangahua ..	108
Bald Hill Flat, Vincent ..	242	Cullensville, Marlborough ..	186
Ballance, Pahiatua ..	93	Culverden, Amuri ..	40
Bannockburn, Vincent ..	410	Cust, Ashley ..	117
Barkly, Southland ..	146	Dalefield, Wairarapa South ..	194
Bay View, Southland ..	38	Danielstown, Wallace ..	34
Beaconsfield, Levels ..	141	Darfield and Horndon, Selwyn ..	262
Beck's Maniototo ..	76	Dargaville, Hobson ..	358
Belfast, Selwyn ..	600	Deborah, Waitaki ..	60
Belgrove, Waimea ..	332	Deborah Bay, Waikouaiti ..	131
Bendigo, Vincent ..	56	Denlair, Wanganui ..	52
Bennett's, Ashley ..	150	Denniston, Buller ..	181
Berwick, Taieri ..	77	Dillman's, Westland ..	467
Birmingham, Kiwitea ..	155	Dipton, Southland ..	86
Blackball, Grey ..	176	Doyleston, Selwyn ..	241
Black's Point, Inangahua ..	288	Dromore, Ashburton ..	54
Blackwater, Inangahua ..	163	Drummond, Wallace ..	213
Blue Spur, Westland ..	53	Dunback, Waihemo ..	134
Bluestone, Tuapeka ..	188	Dunganville, Gray ..	125
Brighton, Taieri ..	57	Dunkeld, Tuapeka ..	80
Brightwater, Waimea ..	409	Dunsandel, Selwyn ..	153
Broad Bay, Peninsula ..	301	Duntroon, Waitaki ..	195
Brockville, Taieri ..	44	Durie Town, Wanganui ..	172
Buffalo, Coromandel ..	146	Duvauchelle's Bay, Akaroa ..	89

East Clive, Hawke's Bay ..	239	Hatter's, or Nelson Creek, Grey ..	128
East Dipton, Southland ..	162	Havelock, Hawke's Bay ..	407
Eastown, Wanganui ..	228	Hawarden, Ashley ..	32
East Winton, Southland ..	137	Hawksbury, Waikouaiti ..	132
Edendale, Southland ..	184	Heddon Bush, Wallace ..	119
Eketahuna, Wairarapa North ..	476	Henderson, Waitemata ..	60
Eltham, Hawera ..	306	Henley, Taieri ..	303
Enfield, Waitaki ..	254	Herbert, Waitaki ..	401
Epworth, Geraldine ..	62	Herbertville, Patangata ..	113
Ettrick, Tuapeka ..	69	Heriot (and outlying), Tuapeka ..	163
Evansdale, Waikouaiti ..	45	Highcliffe, Peninsula ..	278
Eweburn, Maniototo ..	166	Hikurangi, Whangarei ..	354
Fairdown, Buller ..	44	Hikutaia, Thames ..	179
Fairfax (and vicinity), Bruce ..	171	Hillgrove, Waitaki ..	93
Fairfield, Taieri ..	80	Hilton, Geraldine ..	47
Fairlie, Mackenzie ..	369	Hindon, Taieri ..	117
Fendalton, Selwyn ..	367	Hirstfield, Wallace ..	169
Fernhills, Southland ..	67	Hobsonville, Waitemata ..	195
Fernside, Ashley ..	390	Hodgkinson, Wallace ..	60
Ferntown, Collingwood ..	81	Hororata, Selwyn ..	242
Flax Swamp, Waikouaiti ..	88	Howick, Manukau ..	220
Flaxton, Ashley ..	138	Huirangi, Taranaki ..	50
Fordell, Wanganui ..	151	Hunterville, Rangitikei ..	755
Fortrose, Southland ..	140	Huntly, Waikato ..	512
Frankton, Lake ..	155	Hurunui, Ashley ..	53
Frasertown, Wairoa ..	176	Hyde, Maniototo ..	222
Galatea, Whakatane ..	82	Ida Valley, Vincent ..	262
Garfield, Wallace ..	41	Inangahua Junction, Inangahua ..	31
Georgetown, Geraldine ..	34	Inglewood, Southland ..	73
Georgetown, Waitaki ..	119	Islington, Selwyn ..	207
German Bay, Akaroa ..	212	Jackeytown, Oroua ..	72
Gibbston, Lake ..	155	Kaeo, Whangaroa ..	181
Gibbstown, Collingwood ..	181	Kai Iwi, Waitotara ..	64
Gimmerburn, Maniototo ..	178	Kaikohe, Bay of Islands ..	134
Glenavy, Waimate ..	55	Kaikoura, Kaikoura ..	394
Gleniti (and vicinity), Levels ..	111	Kaitaia, Mongonui ..	114
Glenore (and vicinity), Bruce ..	91	Kakanui (North), Waitaki ..	163
Glentunnel, Selwyn ..	189	Kakanui (South), Waitaki ..	204
Goldsborough, Westland ..	179	Kakaramea, Patea ..	110
Gordon Special Settlement, Piko ..	70	Kanieri, Westland ..	175
Governor's Bay, Akaroa ..	163	Kapanga, Coromandel ..	500
Granity Creek, Buller ..	193	Karangahake, Ohinemuri ..	609
Grassmere, Southland ..	104	Kaukapakapa, Waitemata ..	313
Greatford, Rangitikei ..	90	Kawakawa, Bay of Islands ..	321
Greendale, Selwyn ..	370	Kawarau Gorge, Vincent ..	44
Green Island Bush, Taieri ..	237	Kawhia, Kawhia ..	37
Greenpark, Selwyn ..	349	Kennedy Bay, Coromandel ..	72
Greentown, Grey ..	100	Kennington, Southland ..	50
Greerton, Tauranga ..	54	Kensington, Levels ..	167
Grovetown, Marlborough ..	316	Kereru (and vicinity), Horo- whenua ..	135
Gumtown, Coromandel ..	51	Killinchy, Selwyn ..	54
Hakaru, Otamatea ..	34	Kimberley, Selwyn ..	162
Hakataramea, Waimate ..	90	Kingston, Lake ..	47
Hamilton, Maniototo ..	50	Kirwee, Selwyn ..	74
Hampden, Waipawa ..	188	Kokonga, Maniototo ..	111
Hamua, Wairarapa North ..	103	Kohukohu, Hokianga ..	262
Hardie's Taieri ..	82	Kopu, Thames ..	136
Harwood, Southland ..	58	Kuaotunu, Coromandel ..	424
Hastings, Thames ..	101	Kuaotunu Upper, Coromandel ..	299
Hastwell, Wairarapa North ..	169		

Kumeroa, Waipawa	104	Marsden, Grey	44
Kuri Bush, Taieri	46	Marshalltown, Kiwitea	63
Kuriwao, Clutha	122	Matakohe, Otamatea	93
Kurow, Waitaki	271	Matamau, Waipawa	137
Kyeburn Diggings, Maniototo	97	Matata, Whakatane	70
Kyeburn, Lower, Maniototo	113	Martinborough, Wairarapa South	75
Kyeburn, Upper, Maniototo	72	Maungatua, Taieri	63
Lake Hayes, Lake	104	Mauriceville East, Wairarapa	
Lamlash, Peninsula	31	North	77
Lauder, Maniototo	51	Mayfield, Waitemata	76
Le Bon's Bay, Akaroa	271	Maxwelltown, Waitotara	153
Leedstown, Rangitikei	36	Meanee, Hawke's Bay	145
Leeston, Selwyn	573	Menzies' Ferry, Southland	125
Leithfield, Ashley	345	Mercer (and vicinity), Manukau	210
Levin, Horowhenua	581	Mercury Bay, Coromandel	472
Lichfield, Piako	49	Merryjigs, Inangahua	81
Lime Hills, Southland	126	Merton, Waikouaiti	753
Lincoln, Selwyn	569	Methven, Ashburton	295
Lintley, Southland	47	Middlemarch, Taieri	130
Linton, Oroua	51	Midhurst, Stratford	248
Little Akaloa, Akaroa	259	Milford, Geraldine	247
Little River, Akaroa	137	Mobaka, Wairoa	36
Livingstone, Waitaki	110	Mokau, Kawhia	108
London, Taieri	100	Mokihinui, Buller	45
Long Bush, Southland	84	Mongonui, Mongonui	226
Longridge, Southland	105	Morley, Wallace	53
Lowburn, Vincent	132	Morrinsville, Piako	151
Lower Hawea, Vincent	225	Morton, Levels	235
Lower Woodstock, Westland	57	Motueka, Waimea	877
Lowther, Southland	28	Mount Somers, Ashburton	206
Luggate, Vincent	76	Mount Pisa, Vincent	49
Lumsden, Southland	223	Murchison, Inangahua	75
Lumsden Extension, Southland	154	Nenthorn, Waikouaiti	59
Lyell, Buller	159	New Brighton, Selwyn	929
Macandrew, Southland	72	Newman, Wairarapa North	227
Macetown, Lake	161	Newport, Hobson	97
Mackaytown, Ohinemuri	32	Ngahauranga, Hutt	212
Mackenzie, Cheviot	53	Ngahere, Grey	137
Macrae's (and vicinity), Waihemo	103	Ngapara, Waitaki	233
Maheno, Waitaki	206	Nightcaps, Wallace	167
Mairtown, Whangarei	177	Normanby, Levels	36
Makakahi, Pahiatua	61	Norsewood (and vicinity), Wai- pawa	898
Makarewa, Southland	250	North Heads, Waikouaiti	78
Maketu, Tauranga	72	North Taieri, Taieri	183
Makikihi, Waimate	57	No Town, Grey	80
Makuri, Pahiatua	93	Nukumarū, Waitotara	93
Makutuku, Waipawa	175	Oakura, Taranaki	46
Mangamahoe, Wairarapa North	35	Oaklands, Peninsula	52
Mangaonoho, Rangitikei	166	Oban, Stewart Island	41
Mangatainoko, Pahiatua	106	Ohaeawai, Bay of Islands	92
Mangawai, Otamatea	272	Ohakune, Wanganui	40
Mangaweka, Rangitikei	349	Ohau (and vicinity), Horo- whenua	256
Mangawhare, Hobson	471	Ohinemutu, Rotorua	131
Manakau, Horowhenua	149	Ohingaiti, Rangitikei	410
Mandeville, Southland	108	Ohoka, Ashley	654
Mansfordtown, Waikouaiti	380	Okaiawa, Hawera	107
Manutahi, Patea	69	Okaihau and Omaperere, Bay of Islands	286
Manutahi, Taranaki	175		
Maori Gully, Grey	58		
Marlboroughtown, Marlborough	148		

Okain's Bay, Akaroa	222	Ranzau, Waimea	60
Okarito, Westland	62	Rata Settlement	195
Okato, Taranaki	64	Rawene, Hokianga	120
Ongaonga, Waipawa	92	Redcliffe, Waimate	227
Ophir, Vincent	266	Reefton, Inangahua	1,591
Opua, Bay of Islands	57	Reidston, Waitaki	184
Oraka, Wallace	111	Renwicktown, Marlborough ..	324
Orari, Geraldine	135	Reynolds, Waikouaiti	38
Oropi, Tauranga	37	Riccarton, Taieri	99
Orwell Creek, Grey	105	Riccarton, Lower, Selwyn ..	422
Otago Heads, Peninsula ..	179	Riccarton, Upper, Selwyn ..	502
Otahuhu, Manukau	942	Richmond, Selwyn	288
Otaki (and vicinity), Horowhenua	836	Richmond Grove, Southland ..	96
Otakia, Taieri	42	Rikiorangi, Hutt	96
Otara, Southland	200	Rimu, Westland	174
Otekaieke, Waitaki	53	Riversdale, Southland	265
Otiaki, Waitaki	176	Riwaka, Waimea	575
Owaka, Clutha	611	Rockville, Collingwood	102
Owharoa, Ohinemuri	163	Rolleston, Selwyn	136
Owhiro, Taieri	38	Rotheram, Amuri	132
Oxford East, Ashley	153	Rotorua, Rotorua	499
Oxford West, Ashley	241	Round Hill Diggings, Wallace ..	225
Paeroa, Ohinemuri	779	Ruaapekapeka, Bay of Islands ..	92
Pahia, Wallace	84	Russell, Bay of Islands	257
Paikakariki, Hutt	146	Sandymount, Peninsula	299
Pakawau, Collingwood	71	Sanson, Manawatu	255
Panmure, Eden	323	Sarau, Waimea	58
Papanui, Selwyn	479	Sawyer's Bay, Waikouaiti ..	382
Paraparaumu, Hutt	192	Scarborough, Pahiatua	76
Parkville, Wairarapa North ..	233	Sefton, Ashley	270
Patangata, Patangata	103	Selwyn, Selwyn	55
Patutahi (and vicinity), Cook ..	263	Shaftesbury, Piako	44
Peel, Geraldine	53	Shannon, Horowhenua	262
Pembroke, Lake	176	Sheffield, Selwyn	176
Pigeon Bay, Akaroa	352	Shiel Hill, Peninsula	47
Pihama, Hawera	37	Shortland, Thames	1,191
Piko, Levels	160	Silverstream, Mackenzie	118
Pine Hill, Waikouaiti	88	Skippers, Lake	63
Pipiriki, Wanganui	44	Southbrook, Ashley	352
Pirongia East, Waipa	89	South Malvern, Selwyn	92
Pleasant Valley, Waikouaiti ..	34	Spreydon, Selwyn	354
Plimmerton, Hutt	49	Springfield, Selwyn	211
Pohangina, Pohangina	163	Spring Grove, Waimea	361
Point, Levels	90	Springston, Selwyn	584
Porirua, Hutt	74	Stafford, Westland	140
Porangahau, Patangata	171	St. Andrews, Waimate	201
Port Albert, Rodney	56	St. Bathans, Maniototo	254
Port Moeraki, Waitaki	150	Stirling (and vicinity), Bruce ..	211
Portobello Town, Peninsula ..	37	Stoke, Waimea	547
Pourakino, Wallace	33	Studholme Junction, Waimate ..	93
Prebbleton, Selwyn	330	Swannanoa, Ashley	161
Prestonville, Southland	107	Swanson, Waitemata	88
Pukerau, Southland	126	Switzers, Southland	98
Purakanui, Waikouaiti	47	Taiaroa Heads, Peninsula	40
Puriri, Thames	143	Tairua, Thames	141
Raetihi, Wanganui	83	Taitapu, Selwyn	376
Rakaia, Ashburton	458	Takapau, Waipawa	159
Rangiriri, Waikato	47	Tauherenikau, Wairarapa South	71
Rangiwahia (Pemberton), Kiwitea	63	Taupaki, Waitemata	276
Rangotea, Manawatu	136	Taupo, East Taupo	72

Taupiri, Waikato	47	Waipu Central, Whangarei ..	183
Taylorville, Wanganui ..	51	Waipukurau, Waipawa ..	549
Te Aroha West, Piako ..	131	Wairio, Wallace	81
Te Aute, Waipawa	93	Waitahuna, Tuaepeka ..	289
Teddington, Akaroa	103	Waitati (and vicinity), Wai-	
Te Karaka, Cook	67	kouaiti	339
Te Kopuru, Hobson	184	Waitekauri, Ohinemuri ..	463
Templeton, Selwyn	310	Waitotara, Patea	207
Te Puke, Tauranga	169	Waituna, Kiwitea	37
Thornbury, Wallace	125	Waiwera, Clutha	70
Thorpe, Waimea	67	Wakefield, Waimea	694
Tikokino, Waipawa	39	Wallacetown, Southland ..	159
Tiniroto, Cook	57	Wallingford, Patangata ..	65
Tinker's, Vincent	242	Walton, Taieri	32
Tinui, Wairarapa North ..	221	Wanstead, Patangata ..	80
Tokaanu, East Taupo ..	59	Warepa, Clutha	257
Toko, Stratford	134	Washdyke, Levels	494
Tokomaru, Horowhenua ..	88	Waterford, Tauranga ..	116
Totara, Whangaroa	263	Waterton (and vicinity), Ash-	
Tuakau, Manukau	377	burton	235
Tutaekara, Pahiatua	74	Wallington, Levels	39
Turua, Thames	247	Wayne's, Waihemu	38
Upper Hutt, Hutt	339	Weber, Patangata	108
Upper Woodstock, Westland	167	Weedon's, Selwyn	43
Urenui, Clifton	91	Wereroa, Horowhenua ..	87
Vauxhall, Peninsula	89	West Clive, Hawke's Bay ..	428
Waddington, Selwyn	121	Weston, Waitaki	138
Wade, Waitemata	208	Weston Park, Waitaki ..	49
Waianiwa, Southland	49	Whakakiti, Wairarapa North	71
Waiatu, Amuri	183	Whakatane, Whakatane ..	119
Waihi, Ohinemuri	1,102	Whangapoua, Coromandel ..	77
Waiholo, Bruce	142	Whangaroa, Whangaroa ..	152
Waihou, Piako	85	Whare Flat Road, Taieri ..	64
Waikaia, Southland	256	Whenuakiti, Coromandel ..	90
Waikaka, Southland	41	Whitecliffs, Selwyn	34
Waikanae, Horowhenua ..	84	Whitmore, Oroua	75
Waikare, Ashley	258	Whitstone, Waitaki	84
Waikiwi, Southland	45	Wickliffe Bay, Peninsula ..	41
Waikoiko, Clutha	215	Wimbledon, Patangata ..	79
Waimangaroa, Buller	399	Winchester, Geraldine ..	212
Waimate, Bay of Islands ..	106	Windsor, Waitaki	99
Waimatuku, Wallace	225	Wingatui, Taieri	174
Waimea West, Waimea ..	293	Woodbury, Geraldine ..	318
Wainuiomata, Hutt	45	Woodend, Ashley	498
Waiomio, Bay of Islands ..	76	Woodend, Southland	96
Waiorongomai, Piako	201	Woodfield, Southland	46
Waipahi, Clutha	109	Woodlands, Taieri	35
Waipara, Ashley	48	Woodlands, Southland ..	218
Waipiro, Waipatu	73	Woodside, Taieri	163
Waipori, Tuaepeka	157	Wrey's Bush, Wallace ..	123

INCREASE OF POPULATION.

The increase of population for twelve years is shown below. Although the large increase in 1893 was not maintained during the four following years, the arrivals in the colony at all events exceeded the departures by over seven thousand people. Notwithstanding various influences, the colony not only retained the population drawn to it in 1892 and 1893, but also absorbed 7,372 persons from other countries.

against 913 in 1891. Only three of the islands had a population over 100 persons at last census. The population of the Great Barrier increased since 1891 from 262 to 307 persons; Waiheke shows a decrease from 215 to 166 persons. Europeans at the Chatham Islands decreased from 258 to 234.

POPULATION OF AUSTRALASIA.

The Australasian Colonies as a whole contained a population on the 31st December, 1897, estimated at 4,410,124 persons, including those living in the Northern Territory of South Australia, but exclusive of the aboriginal natives of Queensland, South and Western Australia, and 39,854 New Zealand Maoris.

The population of Fiji in December, 1896, was 120,473 persons—66,554 males and 53,919 females. These numbers include natives and imported labourers, besides people of European descent.

AUSTRALASIAN COLONIES.

Colony.	Population on 31st December, 1897.			Rate of Increase during 1897.		
	Males.	Females.	Total.	Males.	Females	Total.
	No.	No.	No.	per cent.	per cent.	per cent.
New South Wales ...	709,360	614,100	1,323,460	2.04	1.93	1.99
Victoria ...	595,402	580,836	1,176,238	— 0.10	0.32	0.11
Queensland ...	271,372	218,328	484,700	2.56	2.78	2.65
South Australia (inclusive of Northern Territory, 4,820)	188,338	174,706	363,044	0.88	0.68	0.78
Western Australia ...	110,364	51,544	161,908	13.93	25.74	17.87
Tasmania ...	91,607	80,111	171,718	3.75	2.95	3.37
New Zealand (exclusive of 39,854 Maoris, Census of 1896)	384,703	344,353	729,056	2.05	2.13	2.09
Australasia ...	2,351,146	2,058,978	4,410,124	2.02	2.00	2.01

— Denotes loss.

The growth of population over a period of thirty-seven years in these colonies is shown in a comparative table. The total for 1897, being 4,410,124 persons, is greater than the population of Scotland but a little less than that of Ireland for 1895, and one-seventh part of the population of England and Wales for that year. The Australasian Colonies have now twice the population of Denmark, one-third more than Switzerland, and nearly that of the Netherlands.

Colony.	1860. No.	1870. No.	1880. No.	1890. No.	1897. No.
New South Wales ..	348,546	498,659	747,950	1,121,860	1,323,460
Victoria ..	537,847	726,599	860,067	1,133,266	1,176,238
Queensland ..	28,056	115,567	226,077	392,965	484,700
South Australia ..	124,112	183,797	267,573	319,414	363,044
Western Australia ..	15,227	25,084	29,019	46,290	161,908
Tasmania ..	87,775	100,765	111,762	145,290	171,718
New Zealand ..	79,711	248,400	484,864	625,508	729,056
Australasia ..	1,221,274	1,898,871	2,730,312	3,784,593	4,410,124

ARRIVALS AND DEPARTURES.

The number of persons who arrived in the colony in the year 1897 was 18,592, an increase of 1,356 on the number for the previous year. Of the arrivals in 1897, 16,476 persons were classified as adults, being above the age of twelve years, and 2,116 as children. The total number of males was 12,153, and of females 6,439. The arrivals from the United Kingdom numbered 2,724, and from Australia 14,799. Besides these, 233 persons came from Fiji, and 836 from the South Seas and other ports, including arrivals by mail-steamers from San Francisco.

Classified in respect of birthplace, it is found that 8,525 of the arrivals were persons born in the Australasian Colonies, 8,922 in the United Kingdom, and 51 in other British possessions. Of 1,094 persons arriving from foreign countries, 360 were born in Austria, 207 in Germany, 155 in the United States, 147 in France, 90 in Italy, 26 in Sweden, and 21 in Norway.

Among the arrivals in 1897 are noticed 57 "race-aliens," or persons of other than European descent. Particulars of birthplace, sex, and age are as under:—

Birthplace.	Adults.		Children.		Total.
	M.	F.	M.	F.	
Fiji	4	..	..	..	4
Rarotonga	..	1	..	..	1
India	18	2	..	..	20
China	12	1	..	..	13
Japan	3	..	..	..	3
Syria	4	1	4	..	9
Samoa	..	2	..	..	2
Society Islands	1	1	..	1	3
Sandwich Islands	1	..	..	..	1
Other places	1	..	..	..	1
Total	44	8	4	1	57

The practice of nominating immigrants to be brought out partly at the Government expense has been discontinued since the 16th December, 1890, and there was no free immigration in the year 1897.

Only 13 Chinese (12 men and 1 woman) arrived in the colony during 1897, but 123 left (all men), the departures thus exceeding the arrivals by 110.

The total departures in 1897 were 15,840 persons, being 76 more than in 1896. Thus, the movement of population to and from the colony is found to have been greater than in the previous year.

In each of the years 1892 to 1897, inclusive, the colony has drawn to itself more population than it has parted with, notwithstanding the attractions of Australian goldfields.

The departures from the colony by the Union Steamship Company's boats, as given through the Customs Department, are checked

by special returns kindly furnished by the pursers of the steamers, and, where persons who did not book their passages have been omitted, the necessary additions are made. The pursers' returns also serve to prevent the occasional omission of the full number of persons leaving by any one vessel, which sometimes had happened previous to the introduction of this chack. Unless more passengers are at any time of great pressure taken away from New Zealand than can lawfully be carried, the returns of outgo of population should prove very fairly correct, and indeed the census of 1896 showed that the estimates of population even after five years' interval was a very close approximation to the truth.

Of the departures in 1897, 14,397 persons were over twelve years of age, and 1,443 children. Nearly twice as many males left the colony as females, the numbers being 10,250 and 5,590 respectively. The departures to the United Kingdom amounted to 1,592 persons, and those to Australia numbered 13,293. Besides these, 116 persons left for Fiji, and 839 for other ports (including passengers for San Francisco).

The results for the year are exhibited hereunder, giving full detail in tabular form :—

ARRIVALS AND DEPARTURES, 1897.

	Arrivals.	Departures.	Excess of Arrivals.	Excess of Departures.
Total persons ..	18,592	15,840	2,752	..
Males ..	12,153	10,250	1,903	..
Females ..	6,439	5,590	849	..
Adults ..	16,476	14,397	2,079	..
Children ..	2,116	1,443	673	..
Numbers from and to—				
United Kingdom ..	2,724	1,592	1,132	..
Queensland ..	7	..	7	..
New South Wales ..	10,670	9,732	938	..
Victoria ..	3,364	2,893	471	..
South Australia ..	1	1	..	..
Western Australia ..	4	1	3	..
Tasmania ..	753	666	87	..
Fiji ..	233	116	117	..
Other British Possessions ..	301	242	59	..
Pacific Islands ..	270	178	92	..
Other foreign ports	265	419	..	154

Chinese, included above: Arrivals 13 (12 men and 1 woman); departures, 123 men: all from and to Australia.

The arrivals and departures for ten years are given in the following tables, in which 1893 shows the highest number of persons inwards, 26,135, and 1894 of persons outwards, 22,984. In regard to Australia the movement was also greatest during the same years, the arrivals in 1893 being 22,361, and departures in 1894 20,488 persons :—

ARRIVALS, TEN YEARS.				
Year.	From United Kingdom.	From Australian Colonies.	From Other Places.	Total Arrivals.
1888	4,138	8,784	684	13,606
1889	3,275	11,312	905	15,392
1890	2,812	11,539	677	15,028
1891	2,435	11,144	852	14,431
1892	2,555	14,674	898	18,122
1893	2,929	22,351	855	26,135
1894	2,846	21,291	1,100	25,237
1895	2,365	18,573	924	21,862
1896	1,956	14,125	1,155	17,236
1897	2,724	14,799	1,069	18,592
Totals, ten years	28,035	148,492	9,114	185,641

DEPARTURES, TEN YEARS.				
Year.	To United Kingdom.	To Australian Colonies.	To Other Places.	Total Departures.
1888	1,964	19,649*	1,168*	22,781*
1889	2,039	12,144*	995*	15,178*
1890	1,863	13,862*	1,085*	16,810*
1891	1,705	15,016*	908*	17,629*
1892	1,612	10,669	883	13,164
1893	1,583	13,277	863	15,723
1894	1,669	20,488	827	22,984
1895	1,703	18,377	887	20,967
1896	1,578	13,208	978	15,764
1897	1,592	13,293	955	15,840
Totals, ten years	17,308	149,983*	9,549*	176,840*

It will be found that the above figures give the total arrivals from the United Kingdom in ten years as 28,035 persons, and the departures as 17,308; and there is no reason to doubt the correctness of these results. The colony drew directly from the Mother-country 10,727 persons over and above those that went back directly during the decennium. For each year in the period the arrivals from the United Kingdom exceed the departures, but the excess was 2,174 in the year 1888, as compared with 1,132 in 1897. In regard to Australia, for each of the years 1888 to 1891, inclusive, the withdrawal of population exceeded the arrivals, and the net result is shown to have been, according to the returns, a loss to New Zealand of 17,992 persons. But, as explained in a foot-note to the table in the Statistical volume, the departures were not all noted, and the error cannot be corrected so as to show actual departures for each distinct year. The greatest loss occurred in 1888, when a reduction of public expenditure out of loan-moneys was effected. But each year from 1892 to 1897 the balance of interchange with Australia is in favour of New Zealand, though only slightly so in 1895, 1896, and 1897. For this six-year period there was a net gain from Australia amounting to 16,501 persons.

The interchange of people with places other than the United Kingdom and Australia has been since 1890 in favour of New Zealand, the net gain amounting to 547 for the seven-year period 1891-97. From 1888 to 1890 each year showed a balance of outgo, amounting to 982 persons altogether.

* Figures given according to the returns, but short of actual fact, as proved by census, 1891.

The Board of Trade, London, publishes the total emigration from the United Kingdom to Australasia as a whole. By the figures given it will be seen that there is a steady annual decrease in the number of persons coming to these colonies from the Home country. Alongside of the Imperial returns of departures to Australasia are shown in the following statement the arrivals in New Zealand direct from the United Kingdom, taken from our own returns, which numbers are short of the full total of persons coming here from England by the arrivals *via* Australia or the United States of America. But, using the information available, it seems evident that New Zealand has been latterly preferred to Australia, from the high proportion which the arrivals here (direct) bear to every hundred of departures from England for the Australasian Colonies.

So long as New Zealand can secure 18 per cent. or more of the total persons leaving England for Australasia, she takes more than the proportion her population bears to that of the seven colonies collectively :—

Year.	Emigration from United Kingdom to Australasia.	Arrivals in New Zealand from United Kingdom.	Arrivals in New Zealand per 100 Departures for Australasia from United Kingdom.
1886	41,055	6,893	15·65
1887	35,198	4,906	13·94
1888	31,725	4,138	13·04
1889	28,834	3,275	11·36
1890	21,570	2,812	13·03
1891	19,957	2,435	12·20
1892	16,183	2,555	15·79
1893	11,412	2,929	25·67
1894	11,151	2,846	25·52
1895	10,809	2,365	21·88
1896	10,710	1,956	18·26
1897	..	2,724	..

A statement is added giving the immigration and emigration for each of the Australasian Colonies during the year 1897. The result is shown to be a net gain to these colonies of 17,114 persons during the year :—

Colony.	Arrivals.			Departures.			Excess of Arrivals over Departures.		
	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.
New South Wales	No. 86,213	No. 45,952	No. 132,165	No. 82,676	No. 46,637	No. 129,313	No. 3,537	No. -6·5	No. 2,872
Victoria	63,123	27,724	90,847	71,176	34,551	105,727	-8,053	-6,827	-14,880
Queensland ..	20,536	8,574	29,110	17,571	7,908	25,479	2,965	666	3,631
South Australia ..	67,738	29,630	97,368	68,740	31,322	100,062	-1,002	-1,692	-2,694
Western Australia	35,181	14,206	49,387	21,980	4,823	26,803	13,201	9,383	22,584
Tasmania	12,647	8,088	20,735	10,704	7,163	17,866	1,913	926	2,839
New Zealand ..	12,153	6,439	18,592	10,250	5,590	15,840	1,903	849	2,752
Australasia ..	297,591	140,613	438,204	283,097	137,993	421,090	14,494	2,620	17,114

— Denotes loss.

NOTE.—In these figures allowance has been made for unrecorded departures.

THE CHINESE.

At the census of 1881, the year in which taxation was first imposed on Chinese landing in the colony, the Chinese population amounted to 5,004 persons, which fell to 4,542 in 1886, and further to 4,444 in 1891. In April, 1896, the census revealed a further fall to 3,711 persons. During the period 1881-96 the poll-tax was £10 per head, and this seemed sufficient for the purpose of preventing a large influx of the Chinese, except for the circumstance that, during the years 1894 and 1895, the arrivals shown by the Customs returns are found to have been somewhat greater than the departures. In 1896, the Chinese Immigrants Act Amendment Act of that year raised the poll-tax on Chinese immigrants to £100 per head, and limited the number of Chinese passengers that may be carried by vessels to this colony to one for every 200 tons burthen. This Act is to remain in force only until "The Asiatic Restriction Act, 1896," which has been reserved for Her Majesty's assent, and has a wider scope, comes into operation. In 1896 the amount paid by the Chinese as poll-tax was £1,270, and in 1897 the sum was £240.

Chinese immigration is under restraint in Australia as well as in New Zealand. In New South Wales the arrivals have been reduced until the number for 1896 was only 99, against 450 departures, by means of a similar poll-tax to that of New Zealand, and requirement that every vessel should not bring more than one Chinaman to every 300 tons. These conditions are helped by the law which forbids the naturalisation of a Chinese, and some prohibition as to mining without special authority. In 1887 no less than 1,798 Chinese paid poll-tax in New South Wales, and in 1896 the number was only 2.

Of the Chinese living in New Zealand in 1896, when the last census was taken, 3,685 were males and 26 females. Of the males, 88 were returned as married. The number of the Chinese under 14 years of age was only 14 males and 11 females. These numbers do not include the issue of unions between Chinese men and European women.

The occupations show 2,162 gold-miners, 527 market and other gardeners with 129 assistants, 94 greengrocers and 38 assistants, 94 shop- or store-keepers and 30 assistants, 59 labourers, 43 hotel servants; 31 vegetable, 27 general, and 25 fish hawkers; 31 laundrymen and women, 31 domestic servants, 29 lodginghouse keepers, 27 cooks (not domestic), 24 farm-labourers, 19 eating-house keepers, 19 grocers with 21 assistants, 16 fishermen, 11 merchants with 6 assistants, 7 drapers and 1 assistant. Amongst various others, in small numbers each, are returned 1 law-clerk; 2 missionaries, 5 medical men, 1 dentist, 1 chemist, 1 interpreter, 2 bankers, 1 opium-seller. Three of the Chinese were inmates of hospitals, and 3 others of benevolent asylums. While 22 were lunatics, only 2 were prisoners in gaol.

DENSITY OF POPULATION.

The proportion of persons to a square mile in New Zealand increased from 6·024 to 6·760 between 1891 and 1896. In 1886 there were 5·561 persons to a square mile, giving an increase of 1·2 during the last ten years.

Since 1858 the proportions at the different census years were :—

NUMBER OF PERSONS TO A SQUARE MILE.					
Year.		Persons.	Year.		Persons.
1858	..	0·566	1878	..	3·969
1861	..	0·944	1881	..	4·693
1864	..	1·641	1886	..	5·561
1867	..	2·094	1891	..	6·024
1871	..	2·456	1896	..	6·760
1874	..	2·869			

Of the different provincial districts, the most thickly-populated is Wellington, and the one with the fewest people in proportion to size is Marlborough. The table below shows the area of the provincial districts, and the average number of persons to a square mile :—

Provincial Districts.	Area in Acres.	Area in Square Miles.	Persons to a Square Mile.
Wellington	7,042,000	11,003	11·075
Canterbury	8,985,400	14,040	9·677
Taranaki	2,117,380	3,308	9·424
Hawke's Bay	2,823,300	4,410	7·718
Otago	16,311,700	25,487	6·432
Auckland	16,477,700	25,746	5·965
Nelson	6,572,100	10,269	3·480
Westland	2,970,600	4,641	3·118
Marlborough	3,041,670	4,753	2·626

The population in the boroughs, amounting to 307,294, gives an average of 1,354 persons to every square mile in these towns. The proportion has not changed since 1891. The people lay closest in the Borough of Wellington, where there are 34 persons to the acre, or at the rate of 21,760 to the square mile.

Outside the boroughs (and excluding persons on shipboard) the population shows an average of 3·78 to the square mile of country, against 3·40 to the square mile in 1891 and 3·16 in 1886.

PROPORTIONS OF THE SEXES.

At the census of 1858 the number of females to 100 males was found to be 76·41, and the proportion was actually less in 1861, when the number was 62·16, and smaller still in 1864 (61·53). From this last year the proportion of females steadily increased to 89·31 at the last census.

Year.		Number of Females to 100 Males.	Year.		Number of Females to 100 Males.
1858	..	76·41	1878	..	79·40
1861	..	62·16	1881	..	81·72
1864	..	61·53	1886	..	85·28
1867	..	65·75	1891	..	88·26
1871	..	70·52	1896	..	89·31
1874	..	75·17			

The numbers of the sexes are shown to be gradually becoming equal as time advances. Indeed, there was only one provincial district (Westland) which showed at last census an actual diminution of females (269), and with this is observed a far greater reduction in the number of males (1,149). In Marlborough the males were found to be 365 fewer in 1896 than in 1891, while the females increased by 81 in number.

RELIGION.

Of the various religious denominations, the Church of England has most adherents in the colony. They numbered 281,166 at the date of the census; or, including 1,643 Protestants not more specifically described, 282,809 persons, being 40·27 out of every 100 of population. The Presbyterians numbered 159,952 persons, or 22·78 per cent., and the Roman Catholics came next with 97,525, or, including Catholics not further defined, 98,804, which gives a proportion of 14·07 per cent. The Methodists were 73,367, or 10·44 in every 100 persons. Of other denominations, the Baptists, of whom there were 16,037, and the Salvation Army, 10,532 persons, were those returning more than 1 per cent. of the total population, the proportions being 2·28 and 1·50 respectively. 15,967 persons objected to state their religious belief, or 2·27 in every 100.

The numbers and percentages for five censuses are given in tabular form, so as to allow of the degree of increase relatively to the population being observed:—

Denominations.	Number of Adherents in 1896.	Proportion per Cent. of Population.				
		1878.	1881.	1886.	1891.	1896.
Church of England and Protestants (undefined) ..	292,809	42·55	41·50	40·17	40·51	40·27
Presbyterians ..	159,952	22·95	23·08	22·59	22·62	22·78
Methodists ..	73,367	9·14	9·53	9·55	10·14	10·44
Baptists ..	16,037	2·21	2·34	2·48	2·37	2·28
Congregational Independents ..	6,777	1·34	1·37	1·35	1·07	0·97
Lutherans ..	5,538	1·36	1·18	1·02	0·90	0·79
Salvation Army ..	10,532	..	..	0·91	1·50	1·50
Society of Friends ..	321	0·04	0·05	0·05	0·05	0·05
Unitarians ..	375	0·11	0·10	0·08	0·05	0·05
Other Protestants ..	15,194	1·08	1·26	1·55	1·82	2·16
Roman Catholics and Catholics (undefined) ..	98,804	14·21	14·08	13·94	13·96	14·07
Greek Church ..	116	0·02	0·01	0·01	0·01	0·02
Hebrews ..	1,549	0·34	0·31	0·27	0·23	0·22
Buddhists, Confucians ..	3,391	1·05	1·01	0·77	0·63	0·48
Other Denominations ..	1,099	0·05	0·11	0·10	0·12	0·16
No Denomination ..	8,535	0·53	0·89	1·05	1·32	1·22
No Religion ..	1,875	0·05	0·06	0·17	0·25	0·27
Unspecified ..	1,122	0·42	0·27	0·50	*	*
Object to state ..	15,967	2·55	2·85	3·44	2·45	2·27
	703,360	100·00	100·00	100·00	100·00	100·00

Here the proportion belonging to the Church of England is shown to have been 40 per cent. since 1886, but a little higher previously. Presbyterians have been 22 or 23 per cent. of the whole

* "Unspecified" not taken into account.

since 1878, but the proportion of Methodists rose steadily from 9·14 to 10·44. Congregationalists declined from 1·37 per cent. in 1881 to 0·97 per cent. in 1896. Lutherans are fewer in proportion to the total at each succeeding census, while the Salvation Army increased from 0·91 in 1886 to 1·50 in 1891 and 1896.

Roman Catholics and Catholics undefined formed practically 14 per cent. of the people at each of the census years. The proportion of Buddhists and Confucians diminishes with the number of Chinese in the colony. In 1886 the percentage of persons objecting to state their religion was 3·44, which fell to 2·45 in 1891, and, further, to 2·27 in 1896.

A full statement of the particulars for all denominations, as at the census of 1891 and 1896, is given, with the numerical and centesimal increase or decrease in each case. Amongst 1,710 given as "Other Protestants," 663 described themselves as "Church of God," 142 as "Gospel Temperance Mission," 80 as "Our Father's Church," 205 as "Christians of no Denomination," 88 as "Conditional Immortalists," 24 "New and Latter House of Israel," 26 the "Free Church," 18 "Forward Movement," 22 the "Body of Christ," and the remainder variously in very small numbers.

NUMBERS FOR EACH DENOMINATION, AND INCREASE.

Religious Denominations.	Census, 1896.			Census, 1891.	Increase or Decrease.	
	Males.	Females.	Persons.	Persons.	Numerical.	Centesimal.
Total population	371,415	331,945	703,360	626,658	76,702	12·24
Total for specified religions	370,637	331,601	702,238	625,370	76,868	12·29
Episcopalians—						
Church of England	148,171	132,995	281,166	250,945	30,221	12·04
Protestants, undescribed	996	647	1,643	2,386	-743	-31·14
Presbyterians	84,259	75,693	159,952	141,477	18,475	13·06
Methodists—						
Wesleyan Methodists*	31,481	31,892	63,373	56,035	7,338	13·10
Primitive Methodists	3,449	8,592	7,041	5,220	1,821	34·89
Methodists (undefined)	1,476	1,417	2,893	2,071	822	39·69
Others	34	26	60	89	-29	..
Baptists	7,690	8,347	16,037	14,825	1,212	8·18
Congregational Independents..	3,284	3,493	6,777	6,685	92	1·38
Lutherans, German Protestants	3,537	2,001	5,538	5,616	-78	-1·39
Unitarians	232	143	375	308	67	21·75
Society of Friends	200	121	321	315	6	1·90
Church of Christ (Disciples of Christ)	2,700	3,159	5,859	5,241	618	11·79
Brethren (Christian and Plymouth)	2,359	2,676	5,035	3,537	1,498	42·35
Believers in Christ	36	41	77	193	-116	-60·10
Evangelists	23	10	33	93	-60	-64·52
Nonconformists	59	36	95	77	18	23·38

* Includes United Methodist Free Churches and Bible Christians, which bodies were incorporated in the Wesleyan Methodist Church on 13th April, 1896.

NOTE.—The minus sign (—) indicates decrease.

Religious Denominations.	Census, 1896.			Census, 1891.	Increase or Decrease.	
	Males.	Females.	Persons.	Persons.	Numerical.	Centesimal.
Salvation Army	5,244	5,288	10,532	9,383	1,149	12·25
Christadelphians	485	467	952	700	252	36·00
Swedenborgians, or New Church	101	90	191	178	13	7·30
Seventh-day Adventists ..	316	460	776	415	361	86·99
Students of Truth	148	192	340	325	15	4·62
Dissenters	32	33	65	42	23	54·76
Christian Israelites, Israelites	27	34	61	55	6	10·91
Other Protestants	860	850	1,710	439	1,271	..
Roman Catholics	50,348	47,177	97,525	85,856	11,669	13·59
Catholics (undefined) ..	704	575	1,279	1,416	-137	-9·68
Greek Church	99	17	116	56	60	107·14
Catholic Apostolic	118	129	247	150	97	64·67
Other Denominations—						
Hebrews	608	741	1,549	1,463	86	5·88
Mormons, Latter-day Saints	162	127	289	206	83	40·29
Spiritualists	196	180	376	339	37	10·91
Buddhists, Confucians, &c.	3,374	17	3,391	3,928	-537	-13·67
Others	125	62	187	154	33	..
No Denomination—						
Freethinkers	3,076	907	3,983	4,475	-492	-10·99
Agnostics	426	136	562	322	240	74·53
Deists, Theists	38	8	46	51	-5	-9·80
No Denomination	2,410	1,488	3,898	2,999	899	29·98
Doubtful	31	15	46	405	-359	..
No Religion—						
No Religion	1,089	401	1,490	1,269	221	17·42
Atheists	88	29	117	123	-6	-4·88
Secularists	112	41	153	65	88	135·38
Others (variously returned)	93	22	115	101	14	..
Object to state	10,141	5,826	15,967	15,342	625	4·07
Unspecified	778	344	1,122	1,288	-166	-12·89

It will be seen by the table that, of the larger Protestant denominations, the Wesleyan Methodists increased since 1891 from 56,035 to 63,373 persons, being at the rate of 13·10 per cent.; Presbyterians from 141,477 to 159,952, or 13·06 per cent.; and the Church of England from 250,945 to 281,166, or 12·04 per cent. Baptists gained 8·18 per cent. The Salvation Army, which increased its number in the period 1886-91 from 5,276 to 9,383, or 77·84 per cent., only gained 1,149 persons between 1891 and 1896, being at the moderate rate of 12·25 per cent. The numbers of the Brethren show 42·35 per cent., and of Seventh-day Adventists 86·99 per cent. increase; but the Congregational Independents only 1·38, and Lutherans an actual decrease of 78 adherents, or 1·39 per cent. Of the Protestant bodies having but few members in the colony, the Unitarians increased from 308 to 375, and the Society of Friends from 315 to 321.

Roman Catholics added 11,669 to their number, being 13·59 per cent., a rate slightly higher than that obtained by the Wesleyan Methodists.

Hebrews were 1,549 in 1896, and 1,463 in 1891, a difference of 86. Spiritualists progressed but little, the numbers being 339 and 376. Freethinkers decreased from 4,475 to 3,983, or nearly 11 per cent., which is worthy of remark when contrasted with the increase of 14·01 per cent. gained between 1886 and 1891; but Agnostics, who numbered 322 in 1891, added 240, making 562 in 1896.

Proportions of the Sexes in the Various Denominations.

While the number of males is found to be greater than that of the females in the Church of England, Presbyterian, and sundry other religious denominations, the contrary result is found in the following cases, the proportions per cent. being—

	Males.	Females.
Wesleyan Methodists	49·68	50·32
Primitive Methodists	48·98	51·02
Baptists	47·95	52·05
Congregational Independents	48·46	51·54
Church of Christ	46·08	53·92
Brethren	46·85	53·15
Salvation Army	49·79	50·21
Seventh-day Adventists	40·72	59·28

Amongst those persons grouped as of “No denomination,” “No religion,” and “Object to state,” the proportion of females is very small, as will be seen by the next figures:—

	Males.	Females.
No Denomination	77·23	22·77
Freethinkers	75·80	24·20
Agnostics	82·60	17·40
Deists, Theists	61·83	38·17
No Denomination	67·39	32·61
Doubtful		
No Religion—		
No Religion	73·09	26·91
Atheists	75·21	24·79
Secularists	73·20	26·80
Others (variously returned)	80·87	19·13
Object to state	63·51	36·49

Sunday-schools.

As to attendance at Sunday-schools, a comparison can only be made if the teachers be included with the scholars. Proceeding on these lines, a large development is found since 1878:—

ATTENDING SUNDAY-SCHOOLS (INCLUDING TEACHERS.)

Census Year.	Totals.	Males.	Females.
1878	62,273	30,707	31,566
1886	99,884	48,509	51,375
1896	116,045	54,063	61,982

The excess of females over males would seem as time goes on to grow greater, both numerically and in proportion to the numbers attending Sunday-school.

The number of scholars at the Sunday-schools in 1896 was 104,934, of whom 50,096 were boys and 54,838 girls. The teachers were 11,111 of both sexes, 3,967 being males and 7,144 females.

BIRTHPLACE.

Of the population, exclusive of Maoris (703,360 persons), all but 604 were described as to birthplace on the census schedules. The

number of the New Zealand-born was 441,661, and of those born in Australia, Tasmania, and Fiji, 21,782, making 463,443 born in Australasia. The New Zealand-born increase in proportion to the whole with every successive census. In 1886, 51·89 per cent. of the population were born in this colony; in 1891, the percentage was 58·61; and in 1896 it had reached 62·85, adding to which 3·10 per cent. born in Australia, &c., makes 65·95 out of every 100 persons living in New Zealand who were born in Australasia.

215,161 persons, or 30·62 per cent. of the population, were born in the United Kingdom, which number was divided as under:—

Born in United Kingdom—				Number of Persons.	Per Cent. of Population.
England	..	..	..	116,541	16·58
Wales	..	..	..	2,148	0·31
Scotland	..	..	..	50,435	7·18
Ireland	..	..	..	46,037	6·55
				215,161	30·62

Besides these, there were 3,750 persons born in other British possessions.

Summarising these results, it is found that 682,354 of the population, or 97·10 per cent., were born in the British possessions, made up as follows:—

Born in				Number of Persons.	Per Cent. of Population.
Australasia	..	..	..	463,443	65·95
United Kingdom	..	..	..	215,161	30·62
Other British Possessions	..	..	..	3,750	0·53
				682,354	97·10

There remained 19,080 persons born in foreign countries, or 2·71 per cent. of population; 1,322 born at sea; and 604 whose birth-places were not specified.

The New Zealand-born population increased from 366,716 in 1891 to 441,661, or at the rate of 20·44 per cent., between 1891 and 1896, the numerical increase being 74,945 persons. The numbers born in the United Kingdom decreased altogether by 3,673 in the quinquennium.

	Born in			Persons.	Decrease since 1891.	
					Numerical.	Centesimal.
England	..	..	..	1896. 116,541	529	0·45
Wales	..	..	..	2,148	66	2·98
Scotland	..	..	..	50,435	1,481	2·85
Ireland	..	..	..	46,037	1,597	3·25

The numbers of Australian-born are found to have increased for each colony. The number born in Queensland, living in New Zealand, was only 481 in the year 1891, but 930 in 1896, an increase of 93·35 per cent. There were 2,833 persons in this colony in 1891 born in New South Wales, and 4,536 at last census, or an increase of 60·11 per cent. in five years. New Zealand also gained on the number born in Victoria, there being 10,471 in 1896 against 8,941 in 1891, or 17·11 per cent. increase. And similarly on the South Australian and Tasmanian-born.

The number of the people born in foreign countries was found to be 19,080, being 2.71 per cent. of the whole. Besides these, 1,322 persons were returned as born at sea. The greatest number of foreigners were Germans (4,595). Next come persons born in China (3,719). Swedes and Norwegians numbered 2,775; and there were 2,125 persons from Denmark and her possessions.

The numbers of those born in France, Germany, the Netherlands, Portugal, Norway, Switzerland, China, Africa, and America all decreased since 1891.

The following table gives full details, and exhibits under the head of allegiance the number of British and foreign subjects in New Zealand:—

NUMBERS OF EACH NATIONALITY, AND INCREASE, 1891 TO 1896.							
Where born.	Census, 1896.			Census, 1891.		Increase or Decrease.	
	Males.	Females.	Persons.	Persons.		Numerical.	Centesimal.
Total population ..	371,415	331,945	703,360	626,658		76,702	12.24
Total for specified birth-places ..	871,008	331,748	702,756	625,641		77,115	12.33
British:—							
United Kingdom,—							
England ..	66,590	49,951	116,541	117,070		-529	-0.45
Wales ..	1,290	858	2,148	2,214		-66	-2.98
Scotland ..	28,890	21,545	50,435	51,916		-1,481	-2.85
Ireland ..	24,835	21,202	46,037	47,634		-1,597	-3.35
Australasia,—							
New Zealand ..	221,085	220,576	441,661	366,716		74,945	20.44
Queensland ..	451	479	930	481		449	93.35
New South Wales ..	2,299	2,237	4,536	2,833		1,703	60.11
Victoria ..	5,076	5,395	10,471	8,941		1,530	17.11
South Australia ..	607	615	1,222	983		239	24.31
Western Australia ..	60	52	112	76		36	47.37
Tasmania ..	1,697	1,463	3,160	2,629		531	20.20
Australia (colony not stated) ..	596	604	1,200	..		..	..
Fiji ..	68	83	151	105		46	43.81
Other British Possessions,—							
Gibraltar ..	21	28	49	50		-1	-2.00
Malta ..	48	23	71	61		10	16.39
India and Ceylon, &c. ..	767	574	1,341	1,168		173	14.81
Cape of Good Hope ..	118	128	246	285		-39	-13.68
St Helena ..	30	20	50	55		-5	-9.09
British North America,							
Canada ..	851	561	1,412	1,447		-35	-2.42
West Indies ..	175	72	247	238		9	3.78
Others (a) ..	191	143	334	294		40	13.61
Foreign,—							
Austria-Hungary ..	749	132	881	564		317	56.21
Belgium ..	91	47	138	115		23	20.00
Denmark and Possessions ..	1,373	752	2,125	2,058		72	3.51
France and Possessions ..	494	204	698	711		-13	-1.83
Germany ..	3,010	1,585	4,595	4,663		-68	-1.46
Greece ..	95	32	127	94		33	35.11
Italy ..	338	85	423	397		26	6.55

(a.) Norfolk Island, 30; Pacific Islands (British), 31; Straits Settlements, 20; Hongkong, 6; Mauritius, 54; British South Africa, 121; Natal 13; West Africa, 8; East Africa, 2; British Guiana 33; British Honduras &c., 8; Falkland Islands, 6.

Where born. Foreign,—continued.	Possessions	Census, 1896.			Census, 1891. Persons.	Increase or Decrease.	
		Males.	Females.	Persons.		Numerical.	Centesimal.
Netherlands and Possessions	..	115	17	132	143	- 11	- 7·69
Poland	..	70	31	101	99	2	2 02
Portugal and Possessions	..	149	24	173	205	- 32	- 15·61
Russia and Possessions	..	330	85	365	320	45	14·06
Spain and Possessions	..	63	25	88	76	12	15·79
Sweden	..	1,310	204	1,514	1,414	100	7·07
Norway	..	892	369	1,261	1,288	- 27	- 2·10
Switzerland	..	258	84	342	362	- 20	- 5·52
Other European Countries (b)	..	17	13	30	34	- 4	- 11·76
China	..	3,695	24	3,719	4,470	- 751	- 16·80
Africa	..	72	62	134	183	- 49	- 26·78
America (North America)	..	620	349	969	1,016	- 47	- 4·63
United States of America	..	542	238	780	667	113	16·94
Other Foreign Countries (c)	..	333	152	485	276	209	75·72
At Sea	..	647	675	1,322	1,295	27	2·08
Unspecified	..	407	197	604	1,017	- 413	- 40·61
<i>Allegiance.</i>							
British subjects	..	360,238	329,765	690,003	612,064	77,939	12·73
Foreign subjects	..	11,177	2,180	13,357	14,594	- 1,237	- 8·47

(b.) Turkey, 25; Roumania, 4; Montenegro, 1.

(c.) Syria, 217; Arabia, 4; Persia, 4; Japan, 15; Argentine, 10; Brazil, 21; Chili, 19; Hayti, 2; South America, &c., 78; Pacific Islands, 115.

Separating persons of European descent born in Asia from those of Asiatic race leaves the following: Chinese, 3,685 (males, 3,671; females, 14); Indians, 46 males; Syrians, 195 (males, 153; females, 42); Arabs, 4 males; Persians, 4 (males, 3; female, 1); Japanese, 15 (males, 7; females, 8). Total Asiatics, 3,949 (males, 3,884; females, 65).

AGES: MINORS, ADULTS, AND OLD PEOPLE.

The number of persons living at each quinquennial period of age, and proportions per cent. of population, are shown in the table appended, according to the results of the census of 1896:—

PROPORTIONS AT QUINQUENNIAL PERIODS OF AGE.

		Numbers.			Proportions per Cent.		
		Persons.	M.	F.	Persons.	M.	F.
Under 5 years	..	83,659	42,448	41,211	11·97	11·56	12·42
5 years and under 10 years	..	86,025	43,561	42,464	12·31	11·86	12·80
10	15	85,467	43,044	42,423	12·23	11·72	12·79
15	20	80,734	40,364	40,370	11·55	10·98	12·17
20	25	68,716	34,264	34,452	9·81	9·30	10·39
25	30	59,595	30,605	28,990	8·49	8·26	8·74
30	35	45,213	23,747	21,466	6·41	6·35	6·47
35	40	40,587	22,506	18,081	5·73	5·99	5·45
40	45	34,854	19,999	14,855	4·89	5·26	4·48
45	50	29,555	16,830	12,725	4·14	4·42	3·84
50	55	27,726	16,203	11,523	3·90	4·29	3·47
55	60	22,849	14,252	8,597	3·23	3·81	2·59
60	65	16,782	10,504	6,278	2·36	2·83	1·89
65	70	10,240	6,459	3,781	1·46	1·74	1·14
70	75	5,424	3,219	2,205	0·77	0·87	0·67
75	80	3,231	1,843	1,388	0·46	0·50	0·42
80	85	1,265	677	588	0·18	0·18	0·18
85 years and upwards	..	596	305	291	0·09	0·08	0·09
Unspecified	..	842	585	257	..	..	..
All ages	..	703,360	371,415	331,945	100·00	100·00	100·00

These numbers diminish in a regular progression from the 5- to 10-year period. That the number under 5 years should be smaller than that at the next period is unsatisfactory, as evidencing that there are not sufficient living at the earliest years to come on and maintain the numbers of those 5 years and under 10 now found in the table.

The number of persons under 21 years in April, 1896, was 350,735, and over 21 years 351,783, besides 842 unspecified as to age, but nearly all adults.

Comparison of the population under and over 21 years for 1886, 1891, and 1896 shows that the number over 21 years is increasing in proportion to the population at all ages.

PROPORTIONS PER CENT. OF PERSONS—ALL AGES.

			1886.	1891.	1896.
Under 21 years	..	..	53.47	52.46	49.94
Over 21 years	..	..	46.53	47.54	50.06
			100.00	100.00	100.00

The males under 21 years in 1896 were 176,926, and the adults 193,904, leaving 585 unspecified as to age, but of whom few were children. The females under 21 numbered 173,809, and adults 157,879, leaving 257 unspecified. The proportions per cent. of population over 21 years of age of each sex are higher for 1896 than for 1891.

PROPORTIONS PER CENT.

		Males.		Females.	
		1891.	1896.	1891.	1896.
Under 21 years	..	49.69	47.72	55.57	52.39
Over 21 years	..	50.31	52.28	44.43	47.61
		100.00	100.00	100.00	100.00

The proportion of aged people in the colony increases with time, and the progression is very important to notice. The figures for nine census years, extending from 1864 to 1896, are quoted:—

PERSONS 65 YEARS AND UPWARDS PER CENT. OF POPULATION.

1864 .. 0.63	1874 .. 1.22	1886 .. 1.81
1867 .. 0.86	1878 .. 1.29	1891 .. 2.29
1871 .. 1.08	1881 .. 1.41	1896 .. 2.95

The numbers at the age-periods most often in request may be described thus: Infancy and extreme youth (under 5 years)—males, 42,448; females, 41,211: School age (5 to 15 years)—males, 86,605; females, 84,887: Women at the reproductive age (15 to 45 years)—158,214: The athletic age (21 to 40 years)—males, 103,613; females, 95,648: The militia age (17 to 55 years)—males only, 188,086: The elderly period of life (55 to 65 years)—males, 24,756; females, 14,875: Old-age (65 years and upwards)—males, 12,503; females, 8,253.

The total number of males liable to be called out for service in the militia in April, 1896, was, in round numbers, 130,000, consisting of all males between 17 and 40 years, with the unmarried between 40 and 55 years, less the exemptions, numbering about 18,000 persons. They are classified as under:—

Class I. Unmarried, between 17 and 30 years ..	75,828
Class II. Married, between 17 and 30 years ..	12,973
Unmarried, between 30 and 40 years ..	16,893
Class III. Married, between 30 and 40 years ..	29,360
Unmarried, between 40 and 55 years ..	12,894
	147,948
Deduct exemptions ..	18,000
	129,948

OCCUPATIONS.

The population (April, 1896), specified as to occupation, is divided into two sections:—

	Totals.	Males.	Females.
Breadwinners	292,932	239,862	53,070
Dependents, or non-breadwinners	408,735	130,729	278,006
Occupation not stated	1,693	824	869

The dependent population consists chiefly of wives, relatives, and others employed in household duties but unpaid, children, persons supported by charity, &c. Its proportion to the whole increases with the process going on of equalisation in numbers of the sexes.

The male breadwinners were nearly twice as numerous as the male dependents, who were mostly under fifteen years of age, but the female dependents were more than five times as many as the breadwinners of that sex.

Breadwinners were divided into six classes:—

Primary Producers.—Males, 102,016; females, 3,114. This is the most important class numerically. It includes persons engaged in agricultural and pastoral pursuits, fishing, and mining.

Males 27·80, females 0·94 per cent. of population of either sex.

Industrial.—Males, 68,571; females, 13,243: persons engaged in manufacture or other processes where materials are employed combined.

Males 18·50, females 4·00 per cent.

Commercial.—Males, 46,262; females, 4,118. Persons engaged in trade (males 24,703, females 3,364) are most numerous. Transport comes next (males 16,612, females 325). In finance or property: males 4,031, females 429. In storage, males 916.

The commercial group forms 12·48 per cent. of the male and 1·24 per cent. of the female population.

Professional.—Males, 11,999; females, 7,247. These are persons, not otherwise classed, engaged in Government, defence, law and order, or ministering to religion, charity, health, education, art, science, or amusement.

Males 3·24, females 2·19 per cent.

Domestic (but directly earning money).—Males, 5,880; females, 22,930: persons supplying board and lodging, or performing personal services for which payment is rendered.

Males 1·59, females 6·93 per cent.

Indefinite.—Males, 4,134; females, 2,418: persons living on incomes earned in the past, or indefinitely described.

Males 1·11, females 0·73 per cent.

No less than 35·28 per cent. of the male population are shown to be dependent, and 83·97 per cent. of the females. These consist of 127,211 males and 275,716 females dependent upon natural guardians; and 3,518 males and 2,290 females, persons dependent upon the State, or upon public or private support. The greater number of those dependent upon natural guardians are scholars and students. There are also a large number of dependent relatives who were not stated to be performing domestic duties, and, of females, many persons performing domestic duties for which remuneration is not paid.

THE HOLLERITH ELECTRICAL MACHINE.

A description of this machine, which is used in some countries for purposes of dealing with the cards by means of which census computations are now usually made, may be found interesting. The machine is not suited for a country like New Zealand, where the population is not very large, and where the combinations required are not of the most elaborate nature. It was tested in Victoria before the census of 1896 was compiled, and the Government decided against it. The question was raised in this colony, whether greater speed could not be achieved by means of the machine, which has led to this explanation. It has been thus described in connection with the Canadian census of 1891:—

“In tabulating the returns, the Hollerith electrical tabulating-machine (which should, perhaps, rather be called a totalling-machine), introduced in the United States, was used. For this purpose, a card, similar in principle to that used in New Zealand, is devoted to each person; but, instead of drawing lines, a hole is punched in the centre of the compartment. Each card is then successively placed on a horizontal board. This board is pierced with holes, corresponding in number to the total number of compartments on the card, and so situated that each hole is under the centre of a compartment. Under each of these holes, again, is a tube partly filled with mercury, which communicates by means of a wire from the bottom of the tube with the index of a counter.

Above the card is a second horizontal board, on the lower side of which are springs, terminating in blunted needles, these being so arranged as to dip into the tubes wherever there is a hole in the card, and thus complete an electric circuit wherever the needle meets the mercury. The electric current then moves the index of the counter through one division each time the board is lowered. By passing all the cards through the machine, the number of persons corresponding to each particular fact can be counted at once, and this number is then written on the tabulation-sheets. The machine is so arranged also as to permit of particular needles only reaching the mercury, and thus a combination of two or more particulars can be worked out by merely passing the cards through the machine. Two or three different combinations can be worked out simultaneously, provided that any one particular does not enter more than one of the combinations—*e.g.*, the religion according to education, and the infirmities according to age, could be worked out at the same time. It is, I believe, recognised that the device would not have been of so much value in the United Kingdom and the other colonies, where the number of details required is not so great. Owing to the time occupied in punching the cards as compared with that of ticking the compartments, the economy only begins to be appreciable when the combinations are very numerous."

SECTION II.—VITAL STATISTICS.

BIRTHS.

THE number of births registered in the colony during 1897 was 18,737, or 25·96 in every 1,000 persons living. The rate is lower than that for the preceding year, and indeed since the year 1881 has steadily declined. The number of births registered in a year reached its maximum in 1884, when it stood at 19,846, after which it fell to 17,876 in 1892, rising again to 18,737 in 1897, the number stated previously.

The large increase in the number of marriages solemnised in 1896 has not as yet had any appreciable effect in raising the number of births, the birth-rate for last year (1897), indeed, being the lowest so far recorded in the statistics of the colony.

The figures for each year are worthy of notice, especially in connection with the subsequent particulars given as to marriages solemnised and the growth of population :—

Year.	Number of Births.	Rate per 1,000 of Population.	Year.	Number of Births.	Rate per 1,000 of Population.
1882	19,009	37·32	1890	18,278	29·44
1883	19,202	36·28	1891	18,273	29·01
1884	19,846	35·91	1892	17,876	27·83
1885	19,693	34·35	1893	18,187	27·50
1886	19,299	33·15	1894	18,528	27·28
1887	19,135	32·09	1895	18,546	26·78
1888	18,902	31·22	1896	18,612	26·33
1889	18,457	30·07	1897	18,737	25·96

While this process of a diminishing birth-rate has been going on the marriages have been increasing numerically, and the population of the colony also :—

Year.	Number of Marriages.	Mean Population (excluding Maoris).	Year.	Number of Marriages.	Mean Population (excluding Maoris).
1881	3,277	493,482	1890	3,797	620,780
1882	3,600	509,309	1891	3,805	629,783
1883	3,612	529,292	1892	4,002	642,245
1884	3,800	552,590	1893	4,115	661,349
1885	3,813	573,362	1894	4,178	679,196
1886	3,488	582,117	1895	4,110	692,417
1887	3,563	596,374	1896	4,843	706,846
1888	3,617	605,371	1897	4,928	721,609
1889	3,632	612,716			

In the year 1881 there were in New Zealand 5·72 births to every marriage in the previous year, and in 1897 the proportion had fallen to 3·86 births to each marriage.

In the Australian Colonies a similar decrease is noticeable. It has been remarked that in all the Australian Colonies, except Tasmania, and possibly New South Wales, the average number of children to a marriage tends to decrease. In Victoria the number for the year 1880 was 4·99, but fell to 4·48 in 1896. In New South Wales the figures are 5·0 and 4·54 for the same years respectively.

The following statement shows the average number of children to a marriage in various European countries :—

	Children to each Marriage.		Children to each Marriage.
Ireland ..	5·46	England ..	4·16
Italy ..	4·56	Sweden ..	4·01
Scotland ..	4·43	Denmark ..	3·55
Holland ..	4·34	France ..	2·98
Belgium ..	4·21		

New Zealand had in 1880 the highest birth-rate of all the Australasian Colonies, 40·78, but now the proportion is just the reverse.

The fall over 10 years is calculated as under :—

BIRTH-RATES PER 1,000 OF POPULATION.

Colony.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Queensland ..	37·77	36·27	40·95	36·35	35·84	33·73	31·86	32·85	30·06	29·92
New South Wales ..	36·18	33·73	35·35	34·50	34·41	32·23	31·47	30·66	28·56	28·48
Victoria ..	32·49	32·95	33·60	33·57	32·54	31·25	29·16	28·57	27·28	26·63
South Australia ..	33·34	32·37	32·75	33·92	32·32	31·71	30·49	30·23	28·46	26·44
Western Australia ..	35·88	37·14	32·55	34·85	33·01	34·14	27·49	25·62	23·65	26·82
Tasmania ..	33·10	31·94	33·49	33·37	32·48	33·92	31·13	30·10	28·07	27·72
New Zealand ..	31·22	30·07	29·44	29·01	27·83	27·50	27·28	26·78	26·33	25·96

With a falling birth-rate, the census taken in 1896 showed lower numbers of each sex living at the period under five years than at the next quinquennial period, which is unsatisfactory, indicating as it does that there are not now sufficient living at the earlier years to maintain the number of those of five years and under ten now found in the tables. The census thus demonstrates the general correctness of the birth-rates, and shows that the results of the statistics are fairly accurate.

It was remarked in the report of the census of 1891 that the marriage rate in New Zealand, from being the highest in the Australasian Colonies, had fallen to be the lowest, and that the same process had been going on in regard to birth-rates. The lapse of five years left the position almost the same, the marriage rate being lower for 1895 than in Queensland, New South Wales, Victoria, and Western Australia, though slightly higher than in Tasmania and South Australia. But in 1896 the marriages showed a considerable increase, and the rate rose to 6·85 per 1,000 of population. In 1897 there was again an increase in the number of marriages solemnised, but the rate (6·83) was slightly lower than in the preceding year.

MARRIAGE RATES PER 1,000 OF POPULATION.

	1874.	1886.	1891.	1895.	1896.	1897.
Queensland	8.62	8.67	7.18	6.23	6.05	6.05
New South Wales ..	7.70	7.99	7.39	6.35	6.59	6.72
Victoria	6.33	7.84	7.69	6.00	6.48	6.36
South Australia ..	8.00	6.24	7.31	5.88	6.20	5.46
Western Australia ..	6.96	7.98	8.00	6.83	8.45	10.73
Tasmania	6.83	7.26	6.63	5.32	5.88	6.23
New Zealand	8.81	5.99	6.04	5.94	6.85	6.83

In April, 1891, New Zealand had 83,204 children living under the age of 5 years, and in 1896 the number was 83,659, an increase of only 455, although the population at all ages increased in the quinquennium by 12.24 per cent. Between 1886 and 1891 the children living under 5 years actually decreased in number by 3,624, the increase of population of all ages (8.33 per cent.) being less than between 1891 and 1896 (12.24 per cent.). The number of children under one year to the total population at all ages, according to the results of three censuses, was:—

Census,	1886	1891	1896	Children under One Year.	Total Population (all Ages).
..	..	..	..	18,355	578,482
"	1891	..	..	16,443	626,658
"	1896	..	..	17,070	703,360

Thus, in 1886, with a population of 578,482 persons, there were 18,355 children under one year, against 17,070 children of that age in 1896, with a population of 703,360 persons.

The births registered in 1885 were 19,693, against 18,546 in 1895, and the birth-rate fell from 34.35 per 1,000 of the population in the former year to 26.78 in the latter.

Deducting 1,637, the number of deaths of children under one year registered in 1895, from 18,546, the number of births for that year, leaves 16,909, or within 161 of the living children under one year at the time of the last census.

In the United States the birth-rates per 1,000 for 1880 and 1890 were respectively 36.0 and 30.7; in England and Wales, 34.2 and 30.2; in Scotland, 33.6 and 30.2; in Ireland, 24.7 and 22.3; in France, 24.5 and 21.8; in Belgium, 31.1 and 28.7; in the German Empire, 37.6 and 35.7; in Austria, 38.0 and 36.7; in Switzerland, 29.6 and 26.6; in Denmark, 31.8 and 30.6; in Norway, 30.7 and 30.3; and in the Netherlands, 35.5 and 32.9.

In discussing the probable reasons for the diminution of the birth-rate in the United States, the Hon. Washington Gardner, Secretary of State, Michigan, in his report for 1894 on the vital statistics of that State, remarks on the following points: "(1) The great diffusion of physiological information; (2) lessening of restraint from religious and social opinion; and (3) the greater cost of family life, which leads to the desire to have fewer children in order that they may each be better provided for." He continues, referring to marriage in the United States: "In the struggle for what is deemed a more desirable mode of existence at the present day,

marriage is held less desirable and its bonds less sacred than they were forty years ago. It is becoming less an institution of lasting character, whose primary object is the establishment of the family, with all that that term once implied, than a mere social function, easily abrogated when convenience or caprice makes such a step seemingly desirable, and one whose lack of permanence and generally unstable character do not make children desirable additions." Although the above refers only to America, the extracts are at least interesting, and it will be observed that they are taken from an official report published by authority.

The birth-rates for nine years in Great Britain and certain countries of the European Continent are given from the report of the Registrar-General of England. The rates in England and Wales, and in Scotland, are higher than those in New Zealand, but the rate for Ireland is lower. For 1890 and following years France has the lowest rate of all quoted:—

BIRTH-RATES IN EUROPEAN COUNTRIES, 1887 TO 1895.

Countries.	Number of Births per 1,000 of Mean Population.									
	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	
Hungary	44.1	43.8	43.7	40.3	42.3	40.3	42.5	41.3	41.5	
Austria	38.2	37.9	37.9	36.7	38.1	36.2	37.9	36.7	38.6	
Italy	39.0	37.6	38.4	35.9	37.3	36.3	36.6	35.7	35.1	
German Empire ..	36.9	36.6	36.4	35.7	37.0	35.7	36.7	35.8	36.1	
Netherlands ..	33.7	33.7	33.2	32.9	33.7	32.0	33.8	32.7	32.8	
England and Wales ..	31.9	31.2	31.1	30.2	31.4	30.5	30.8	29.6	30.4	
Scotland	31.8	31.3	30.9	30.4	31.2	30.8	31.0	30.1	30.4	
Norway	30.8	30.8	29.7	30.3	30.9	29.6	30.7	29.7	30.5	
Sweden	29.7	28.8	27.7	28.0	28.3	27.0	27.4	27.1	..	
Belgium	29.4	29.1	29.5	28.7	29.6	28.9	29.5	29.0	28.5	
Switzerland ..	27.9	27.7	27.6	26.6	28.3	28.1	28.5	28.2	28.0	
France	23.5	23.1	23.0	21.8	22.6	22.1	22.9	22.4	21.9	
Ireland	23.1	22.8	22.7	22.3	23.1	22.5	23.0	22.9	23.2	

The male births in New Zealand in 1897 numbered 9,600, and the female 9,137: the proportion was thus 105.07 males to 100 females. In 1896 the proportion was 104.50 males, and in 1895, 104.86. There are on an average more male to female births in each of the Australasian Colonies than in England, but the proportion of male births is still greater in many European countries.

TWIN BIRTHS.

There were 180 cases of twin births (360 children), and in the Auckland District triplets were registered in one instance, in 1897. The number of children born was 18,737; the number of mothers was 18,555: thus on an average 1 mother in every 101 gave birth to twins, the same proportion as in 1896. In 1895 the proportion was one in 93, and in 1894 one in 103.

ILLEGITIMACY.

The births of 826 children were illegitimate: thus 44 in every 1,000 children born were born out of wedlock, the same proportion as in 1896.

The following table gives the rates of illegitimacy in each of the Australasian Colonies. The rate in New Zealand is less than in any other of the Australasian Colonies except South Australia:—

PROPORTION OF ILLEGITIMATE BIRTHS IN EVERY 100 BIRTHS.

Year.	Queens- land.	New South Wales.	Victoria.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1886	3·97	4·65	4·75	2·38	..	4·13	3·12
1887	4·49	4·59	4·78	2·49	..	3·40	3·23
1888	4·13	5·08	4·80	2·67	..	3·62	3·05
1889	4·68	5·33	4·97	2·47	..	4·02	3·32
1890	4·85	5·26	5·09	2·50	..	4·05	3·30
1891	4·65	5·36	5·36	2·93	..	3·72	3·49
1892	5·05	5·71	5·59	2·93	5·89	4·75	3·32
1893	4·97	6·16	5·46	2·84	4·17	4·41	3·70
1894	4·52	6·14	5·50	3·05	4·66	5·09	3·80
1895	4·93	6·51	5·33	3·13	4·47	4·97	4·50
1896	5·22	5·71	5·63	3·45	5·61	5·91	4·48

While these figures show a rise in the proportion of illegitimate births to every 100 births for this colony, amounting to 1·36 for the period 1886–96, the fall in the actual number of all births in New Zealand must not be forgotten when considering the increase in the number of illegitimates. The total number of births registered fell from 19,299 in 1886 to 18,612 in 1896, while the illegitimate births rose from 602 to 834. The causes that led to the fall in the total number of births certainly did not affect the number of illegitimate children. It has been already stated that the average number of legitimate births to a marriage is declining in this and the other Australian Colonies, and here is one reason for the increased proportion of illegitimates to the total of all births, the other being the degree of numerical increase in the number of illegitimate births themselves.

ILLEGITIMATE BIRTHS.

	Proportion Illegitimate in every 100 Births.		Total Number of all Births.		Number of Illegitimate Births.	
	1886.	1896.	1886.	1896.	1886.	1896.
The Colony	3·12	4·48	19,299	18,612	602	834
Auckland and suburbs ..	4·34	7·23	2,376	1,922	103	139
Wellington and suburbs ..	4·70	8·05	1,341	1,342	63	108
Christchurch and suburbs ..	4·70	7·71	1,872	1,519	88	117
Dunedin and suburbs ..	5·55	7·84	1,585	1,173	88	92

The number of spinsters in the colony between 15 and 45 increased during the ten years from 52,348 (census 1886) to 85,105

(census 1896), or at the rate of 62·6 per cent., while the illegitimate births increased from 602 to 834, or at the rate of 38·5 only.

It would therefore appear that the larger proportion of illegitimate births now obtaining must not be taken as indicative of increased looseness of living on the part of the people.

The following figures, taken from "The Wealth and Progress of New South Wales, 1895-96," showing the rate of illegitimacy per 100 births in the Australasian Colonies and in the United Kingdom, are based on statistics for a period of five years :—

Country.	Illegitimate Births per Cent.	Country.	Illegitimate Births per Cent.
New South Wales ..	6·01	Tasmania	4·58
Victoria	5·45	New Zealand	3·77
Queensland	4·83	England and Wales ..	4·24
South Australia ..	2·98	Ireland	2·65
Western Australia ..	5·02	Scotland	7·38

Of the total number of children born in Australasia during the five years ended 1895, 5·06 per cent. were illegitimate, as compared with 4·44 per cent. in the United Kingdom.

The following figures, which give the percentages of illegitimate births in a number of foreign countries, cover a period of five years :—

Country.	Illegitimate Births per Cent.	Country.	Illegitimate Births per Cent.
Germany	9·15	France	8·67
Prussia	7·75	Belgium	8·81
Bavaria	14·17	Netherlands	8·11
Saxony	12·50	Sweden	10·35
Austria	14·73	Norway	7·09
Hungary	8·49	Italy	6·95

In Scotland, for the year 1895, the proportion of illegitimate births was 13·9 per cent. in Banff, and 14·6 per cent. in Wigtown ; but in Ireland the rate varied from 0·7 per cent. in Connaught to 3·9 in Ulster.

THE LEGITIMATION ACT.

An important Act was passed in 1894, entitled the Legitimation Act, which makes provision for the legitimation of children born before marriage on the subsequent marriage of their parents. Under this Act any child born out of wedlock, whose parents afterwards marry, is deemed to be legitimised by such marriage on the birth being registered in the manner prescribed by the Act. For legitimation purposes Registrars must register a birth

when called upon to do so by any person claiming to be the father of an illegitimate child; but such person is required to make a solemn declaration that he is the father, and that at the time of the birth there existed no legal impediment to his marriage with the mother of the child. He has also to produce the evidence of his marriage. It will thus be seen that in cases dealt with under the Act registration becomes the test of legitimacy. In the December quarter of 1894, 11 children were legitimised; in 1895 the number was 68, in 1896, 56, and in 1897, 48, making altogether 183 legitimations since the passing of the law. It appears likely that the Act will often be taken advantage of in case of half-castes.

EXCESS PER CENT. OF BIRTHS OVER DEATHS.

The excess per cent. of births over deaths in each of the Australasian Colonies for a mean of ten years, ending with 1894, is stated in the Victorian Year-book as under:—

New Zealand	208	Tasmania	131
South Australia	170	Western Australia ..	116
New South Wales	156	Victoria	111
Queensland	142		

BIRTHS AND BIRTH-RATES IN THE FOUR CHIEF CITIES.

The total number of births registered as occurring in the four chief centres and suburbs in 1897 was 4,408, as against 4,360 for the previous year.

The births in the four cities rose from 2,765 in 1896 to 2,847 in 1897; while the births in the suburban boroughs fell from 1,595 to 1,561. The birth-rates for 1897 were,—

		Birth-rates per 1,000 of Mean Population.
Auckland City .. ..	.. ..	28.29
and five suburban boroughs ..	..	27.20
Wellington City .. ..	.. ..	27.71
and three suburban boroughs ..	..	27.46
Christchurch City .. ..	.. ..	21.89
and four suburban boroughs ..	..	22.97
Dunedin City .. ..	.. ..	21.54
and eight suburban boroughs ..	..	21.82

Thus, by the inclusion of the suburbs the rate is raised at Christchurch and Dunedin, but lowered at Auckland and Wellington. It will be observed that Wellington has the highest rate, Auckland the next highest, Christchurch and Dunedin following at long intervals. The difference between the Wellington rate (27.46) and the Dunedin rate (21.82) is very marked. The birth-rate for the whole colony for 1897 was 25.96 per thousand. Auckland and Wellington are thus well above the average, Christchurch and Dunedin considerably below it.

Taking the births in the four central boroughs without their suburbs, and comparing the numbers for 1897 and 1896, an increase is observed—at Auckland 14, at Wellington 62, and at Christ-

church 6. At Dunedin the figures for both years are the same. The figures for the last five years are,—

	1893.	1894.	1895.	1896.	1897.
Auckland (without suburbs) ..	870	873	888	892	906
Wellington ..	971	990	1,000	1,005	1,067
Christchurch ..	344	400	359	370	376
Dunedin ..	484	527	475	498	498

The birth-rates recorded for the four central boroughs last year show a rise at Wellington, 27·71, as against 26·84 for 1896; and at Christchurch, from 21·81 in 1896 to 21·88 in 1897; but a fall at Auckland, from 28·39 to 28·29; and at Dunedin, from 21·83 to 21·54. The rates for the years 1893–97 are as follows:—

	Births per 1,000 of Population.				
	1893.	1894.	1895.	1896.	1897.
Auckland (without suburbs) ..	27·79	27·80	28·04	28·39	28·29
Wellington ..	28·23	28·25	28·30	26·84	27·71
Christchurch ..	20·10	22·81	20·36	21·81	21·88
Dunedin ..	20·54	22·14	19·87	21·83	21·54

NATURALISATION.

Aliens residing in the colony may, on taking the oath of allegiance to Her Majesty, obtain letters of naturalisation entitling them to enjoy all the rights and privileges that a natural-born subject of the United Kingdom can enjoy or transmit within this colony. Only sixty-five aliens (64 men and 1 woman) were naturalised in 1897.

The number belonging to each nationality was as under:—

NUMBER OF ALIENS NATURALISED IN 1897.

Natives of—	M.	F.	Natives of—	M.	F.
German Empire ..	27	1	Denmark ..	4	0
Norway and Sweden ..	19	0	France ..	1	0
Russia (Finland) ..	6	0	Greece ..	1	0
Austria ..	5	0	Portugal ..	1	0

The number of natives of each country naturalised during the last sixteen years is next shown,—

Natives of—		Natives of—	
Germany ..	1,091	France ..	58
Sweden and Norway ..	785	Netherlands ..	31
Denmark ..	561	Greece ..	26
China ..	332	Portugal ..	20
Italy ..	127	United States of America ..	17
Switzerland ..	125	Belgium ..	13
Russia ..	131	Other countries ..	67
Austria ..	116	Total ..	3,500

By section 2 of "The Aliens Act Amendment Act, 1882," repealed and re-enacted by section 2 of "The Aliens Act Amendment Act, 1892," it is provided that when the father, or mother being a widow, has obtained naturalisation in the colony, every child who during infancy has become resident with them in New Zealand shall be deemed to be naturalised, and shall have the rights and privileges of a natural-born subject.

MARRIAGES.

The marriages for 1897 show an increase on the number for the previous year. The number was 4,928, or 85 more than in 1896. The marriage-rate fell slightly, from 6·85 per 1,000 persons living in 1896 to 6·83 in 1897, the rate for 1896 being the highest obtained since 1884, when it stood at 6·87 per 1,000 persons. The improvement shown for 1896 and 1897 sets New Zealand in a good position relatively to the colonies in Australia.

The rates for a series of years are :—

MARRIAGES PER 1,000 OF THE POPULATION.

Year.	Queens-land.	New South Wales.	Victoria.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1888 ..	8·63	7·37	8·03	6·70	7·18	6·58	5·97
1889 ..	8·37	6·76	8·14	6·47	6·99	6·50	5·94
1890 ..	8·49	7·14	8·21	7·06	5·80	6·64	6·12
1891 ..	7·18	7·99	7·69	7·31	8·00	6·63	6·04
1892 ..	6·67	6·77	6·64	6·51	7·29	6·51	6·23
1893 ..	5·91	6·40	5·99	6·26	6·34	5·51	6·22
1894 ..	5·70	6·20	5·98	6·09	6·24	5·43	6·15
1895 ..	6·23	6·35	6·00	5·88	6·83	5·32	5·94
1896 ..	6·05	6·59	6·48	6·20	8·45	5·88	6·85
1897 ..	6·05	6·72	6·86	5·46	10·73	6·23	6·83

But the improved rate for this colony is still lower than the rate for many European countries.

MARRIAGES IN EVERY 1,000 OF THE POPULATION.

Hungary ..	1895 ..	8·4	France ..	1895 ..	7·1
Austria ..	1895 ..	8·1	Denmark ..	1895 ..	7·1
German Empire ..	1895 ..	7·9	Scotland ..	1895 ..	6·8
Belgium ..	1895 ..	7·7	Norway ..	1895 ..	6·4
Switzerland ..	1895 ..	7·5	Sweden ..	1894 ..	5·7
England and Wales ..	1895 ..	7·5	Spain ..	1887 ..	5·5
Italy ..	1895 ..	7·3	Ireland ..	1895 ..	5·0
Netherlands ..	1895 ..	7·3			

Of the marriages solemnised in 1897, 4,472 were between bachelors and spinsters, 154 between bachelors and widows, 204 between widowers and spinsters, and 98 between widowers and widows. Divorced men and women have been classified as bachelors or spinsters: 13 divorced men and 11 divorced women were married during the year.

Included amongst spinsters are seven married women who elected to go through the form of marriage with other men under the protection of the provisions of section 204, subsection (5), of "The Criminal Code Act, 1893," which runs: "No one commits bigamy by going through a form of marriage if he or she has been continually absent from his or her wife or husband for seven years then last past, and is not proved to have known that his wife or her husband was alive at any time during those seven years."

The total number of marriages solemnized (4,928) does not include marriages where both parties are of the aboriginal native

race, such persons being exempted from the necessity of complying with the provisions of the Marriage Act, although at liberty to take advantage thereof. Only seven marriages in which both parties were Maoris were contracted in 1897 in terms of the Act.

BACHELORS AND SPINSTERS IN NEW ZEALAND.

The results of the last three censuses in respect of the number of bachelors of 20 years and upwards, and spinsters of 15 years and upwards, in the colony show some interesting features. While in 1886 there was an excess of bachelors over the spinsters amounting to 12,339 men, in 1891 the census gave an excess of 3,497 only, showing that a process of equalisation had been going on. But by 1896 not only had the preponderance of the male element been lost, but an excess of spinsters over bachelors was reported amounting to 1,786 women.

It is curious to notice how differently the numbers for the Provincial Districts have been affected by the process in operation. An excess of bachelors was preserved in Auckland, Taranaki, Hawke's Bay, Wellington, Marlborough, Nelson, and Westland from 1886 to 1896, but in all these cases except Taranaki it diminished very much. In Canterbury, however, an excess of spinsters was found in 1886 of 910, which increased to 2,516 in 1891, and to 3,997 in 1896; while in Otago an excess of 2,359 bachelors in 1886 changed to an excess of 773 spinsters in 1891, which increased to 2,066 in 1896: these two important districts of the South Island losing large numbers of bachelors by departures to the North Island.

Provincial Districts.	Census, 1886.		Census, 1891.		Census, 1896.	
	Excess of Bachelors over Spinsters.	Excess of Spinsters over Bachelors.	Excess of Bachelors over Spinsters.	Excess of Spinsters over Bachelors.	Excess of Bachelors over Spinsters.	Excess of Spinsters over Bachelors.
Total excess ..	12,339	..	3,497	..	..	1,786
Auckland ..	2,996	..	156	..	703	..
Taranaki ..	242	..	121	..	524	..
Hawke's Bay ..	1,809	..	1,337	..	1,142	..
Wellington ..	2,225	..	2,129	..	637	..
Marlborough ..	607	..	644	..	183	..
Nelson ..	1,524	..	1,486	..	580	..
Westland ..	1,479	..	900	..	501	..
Canterbury ..	..	910	..	2,516	..	3,997
Otago ..	2,359	..	..	773	..	2,066
Chatham Islands ..	8	..	15	..	7	..
Kermadec Islands ..	..	..	..	2	..	..

MARRIAGES BY MINISTERS OF VARIOUS DENOMINATIONS.

Of the marriages in the year 1897, 23.00 per cent. were solemnised by ministers of the Church of England, 25.44 per cent. by ministers

of the Presbyterian Churches, 17·61 per cent. by ministers of the Wesleyan and other Methodist Churches, 10·12 per cent. by ministers of the Roman Catholic Church, 5·86 per cent. by ministers of other denominations, and 17·97 per cent. by Registrars.

The following shows the proportions of marriages by ministers of the principal denominations in the past seven years, and the percentages of these denominations to the total population :—

Denomination.	Percentage of Marriages.							Percentage of Denomination to Total Population in 1896.
	1891.	1892.	1893.	1894.	1895.	1896.	1897.	
Church of England ..	22·18	20·78	23·06	22·86	22·74	22·86	23·00	40·27
Presbyterians ..	27·23	29·38	26·58	25·30	24·32	25·01	25·44	22·78
Wesleyans and other Methodists	14·72	14·82	16·13	15·99	15·69	17·92	17·61	10·45
Roman Catholics ..	10·07	9·74	8·99	10·08	11·19	10·26	10·12	14·07
Others ..	5·67	6·34	6·66	6·65	7·29	6·05	5·86	12·48
By Registrars ..	20·13	18·94	18·58	19·12	18·77	17·90	17·97	..
	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

Marriage by the Registrar is found to be rather less frequent than it was six years ago, the percentage falling from 20·13 in 1891 to 17·97 in 1897.

MARRIAGE REGISTER SIGNED BY MARK.

Of the men married in 1897, 25, or 5·07 in every 1,000, and of the women 39, or 7·91 per 1,000, signed the register by marks.

The illiteracy of the people, as measured by the proportion of married persons who affix marks instead of signatures to the marriage register, has greatly decreased of late, having fallen since 1881 from 32·04 per 1,000 among men to 5·07 per 1,000, and from 57·98 per 1,000 to 7·91 per 1,000 among women. This is shown in a very striking manner by the following table :—

PERSONS IN EVERY 1,000 MARRIED WHO SIGNED BY MARK.

Denomination.	1881.		1891.		1897.	
	M.	F.	M.	F.	M.	F.
Church of England	16·59	27·15	8·29	10·66	3·52	2·64
Presbyterians	10·25	29·61	5·79	8·69	2·39	5·58
Wesleyans and other Methodists	32·41	41·79	8·93	10·71	3·45	6·90
Roman Catholics	117·78	133·33	31·33	18·28	6·01	16·08
Other denominations	10·36	20·72	9·26	..	6·94	6·94
By Registrars	39·22	93·61	27·42	43·08	11·28	16·93
Total marriages	32·04	57·98	13·93	16·82	5·07	7·91

The proportion of illiterates in 1897 was greatest among those married before Registrars. Previously the proportion was largest among Roman Catholics; but since 1881 it has, as shown by the table, most remarkably decreased.

AGES OF PERSONS MARRIED.

Of the persons married in 1897, 80 bridegrooms and 919 brides were under 21 years of age—two of the bridegrooms were between 17 and 18 years of age, and ten between 18 and 19. Of the brides, one was under 15 years of age, six were between 15 and 16, and twenty-two between 16 and 17 years of age. The proportion of men married is greatest at the ages of 25 to 30, and of women at from 21 to 25 years.

The following are the proportions of men and women married at each age-period to every 100 marriages in the years 1888 and 1897:—

Age.	1888.		1897.	
	M.	F.	M.	F.
Under 21 years	1·85	24·30	1·62	18·65
21 and under 25	28·17	42·05	25·19	41·25
25 " 30	33·81	21·15	38·82	26·56
30 " 40	26·02	8·98	25·99	10·52
40 " 50	6·69	2·74	5·28	2·13
50 " 60	2·52	0·61	2·25	0·67
60 " 70	0·88	0·14	0·67	0·20
70 and upwards	0·06	0·03	0·18	0·02

Registrars of Marriages are prohibited by law from issuing certificates for the marriage of minors without the consent of their parents or lawful guardians, if there be any in the colony. If a declaration be made in any case that there is no parent or lawful guardian in the colony, then a certificate may be issued after the expiration of fourteen days following the date on which the notice of intended marriage is given.

A marriage may not be solemnised except after the delivery to the minister or Registrar who officiates of a certificate issued by a Registrar authorising such marriage, and if any persons knowingly and wilfully intermarry without such certificate the marriage is null and void; and no clergyman or minister of any denomination is empowered to solemnise marriages until his name has been placed on the Registrar-General's list of officiating ministers for the year.

The ages at which persons may contract binding marriages are the same as in England—12 years for females and 14 for males. Marriage may be contracted at earlier ages than those stated, but would be voidable at the discretion of either of the parties upon reaching the age of 12 or 14, as the case may be, and without the necessity of proceedings in Court.

Although in New Zealand the age at which girls may legally marry is as above; nevertheless, by the criminal law, to unlawfully carnally know a girl under the age of 16 years is now a punishable offence. The age of consent was raised from 15 to 16 by statute passed in 1896.

The average age of the men married in this colony in 1897 was 29·62 years, and of the women, 25·21 years. In England the mean age of those whose ages were stated was (in the year 1894) 28·41 years for men, and 26·15 years for women. Thus the average age at marriage in the colony is higher for men, but lower for women, than in England.

The proportion of bridegrooms under 21 is much greater in England than in New Zealand; but the proportion of brides under 21 is greater in the colony.

In England, in 1891-95, of every 1,000 bridegrooms whose ages were stated, 56 were under 21 years of age, and of every 1,000 brides 183 were under 21 years of age. In New Zealand, in 1897, the proportions were 16 bridegrooms and 186 brides of similar ages in every 1,000 married:—

Year.	Bridegrooms under 21 in every 100.	Brides under 21 in every 100.	Year.	Bridegrooms under 21 in every 100	Brides under 21 in every 100.
1884 ..	1·87	27·10	1892 ..	1·62	20·14
1886 ..	1·95	26·09	1894 ..	1·44	19·53
1888 ..	1·85	24·30	1896 ..	1·96	19·51
1890 ..	1·89	22·75	1897 ..	1·62	18·64

NUMBER OF MINISTERS.

The number of the clergy is given in the census of 1896 as 777. In 1891 the number returned was 732. Besides the regular clergy, there were 11 Mormon missionaries and 221 Salvation Army officers, of whom 112 were females; also 17 evangelists, 52 missionaries (11 women), and 45 preachers. The number of names on the list of officiating ministers under the Marriage Act is 903, and the denominations to which they belong are shown hereunder.

NUMBER OF OFFICIATING MINISTERS, 1898.

Denomination.	No.	Denomination.	No.
Church of England	290	Independent Wesleyan	1
Presbyterian Church of New Zealand	115	Disciples of Christ	1
Presbyterian Church of Otago and Southland	83	Brethren	1
Roman Catholic Church	148	The New Church	1
Wesleyan Methodist Church	151	The Forward Movement	1
Congregational Independents	15	Salvation Army	7
Baptists	23	Catholic Apostolic Church	3
Primitive Methodist Connection	30	Seventh-day Adventists	4
Lutheran Church	11	Students of Truth	1
Hebrew Congregations	5	Unsectarian Christians	1
Church of Christ	10	Unsectarian Church	1
		Total	903

There were, at the time of the census, 25 theological students, 72 church officers such as sextons and others, and 82 members of religious orders not ministering to charity or education.

DEATHS.

The deaths in 1897 numbered 6,595, being equivalent to a rate of 9.14 in every 1,000 persons living. The rate is slightly higher than that obtaining in 1896 (9.10), which was the lowest experienced since the year 1887, when the deaths were 10.29 per 1,000 of the population.

The death-rate in New Zealand contrasts very favourably with that in the other Australasian Colonies and in European countries, as will be seen by the figures given for a series of years:—

Country.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
New Zealand ..	10.29	9.43	9.44	9.66	10.35	10.06	10.23	10.19	9.91	9.10	9.14
Queensland ..	14.56	14.66	15.44	14.98	12.77	12.66	13.34	12.08	11.38	12.10	11.33
New South Wales..	13.15	13.54	13.42	12.90	14.24	13.22	13.25	12.30	11.79	12.43	10.89
Victoria ..	15.70	15.34	17.54	16.10	16.24	13.63	14.11	13.13	13.23	13.34	12.87
South Australia*	12.77	12.52	11.49	12.40	13.26	11.33	13.42	11.64	11.25	11.48	11.18
Western Australia	16.83	15.91	14.19	11.26	16.96	16.63	15.27	14.00	17.32	16.45	17.63
Tasmania ..	15.45	14.11	14.10	14.74	15.00	13.53	13.47	12.43	11.38	11.56	11.53
England and Wales	19.1	18.1	18.2	19.5	20.2	19.0	19.2	16.6	18.7	..	..
Scotland ..	19.0	18.0	18.4	19.7	20.7	18.6	19.5	17.2	19.7	..	..
Ireland ..	18.2	17.9	17.4	18.2	18.4	19.4	17.9	18.2	18.4	..	..
Denmark ..	18.3	19.7	18.6	19.0	20.0	19.4	18.9	17.5	16.9	..	..
Norway ..	16.0	16.9	17.4	17.9	17.5	17.8	16.3	16.9	15.6	..	..
Sweden ..	16.1	16.0	16.0	17.1	16.8	17.9	16.8	16.4	..	..	..
Austria ..	28.9	29.2	27.3	29.4	28.2	28.8	27.2	27.8	27.6	..	..
Hungary ..	33.8	32.0	29.9	32.4	33.1	35.0	31.1	30.4	29.6	..	..
Switzerland ..	20.3	20.0	20.4	21.0	20.7	19.2	20.4	20.5	19.7	..	..
German Empire ..	24.2	23.7	23.7	24.4	23.4	24.1	24.6	22.3	22.2	..	..
Netherlands ..	19.7	20.4	20.1	20.5	20.7	21.0	19.2	18.5	18.6	..	..
France ..	22.0	21.8	20.5	22.6	22.6	22.8	22.8	21.2	22.3	..	..
Italy ..	28.0	27.6	25.6	26.4	26.2	26.3	25.3	25.1	25.2	..	..

* Excluding the Northern Territory.

In this statement New Zealand is conspicuous as showing the lowest death-rate. The rates for the principal colonies in Australia are a little higher, but still far below those for the United Kingdom or the European Continental States mentioned in the table.

DEATHS AND DEATH-RATES OF THE FOUR PRINCIPAL CITIES AND THEIR SUBURBS.

In the earlier annual reports on the vital statistics of the four chief towns the central boroughs alone were dealt with, particulars respecting the suburbs not having been obtained. But this omission was held to be a grave defect, as the suburban death-rate may differ much from the death-rate at the centre. Steps were therefore taken early in 1895 to collect statistics of the suburban boroughs as well as of the four chief cities. As regards Auckland and Christchurch, the whole of the area usually recognised as suburban has not yet been brought under municipal government, and the statistics given below do not deal with such portions as still remain in road districts. The omission, however, is not very important, for there are in either case quite enough suburbs included within borough

boundaries to give a fair idea of the death-rate of greater Auckland and greater Christchurch. As further boroughs are formed the vital statistics will be made to include them.

The total number of deaths registered for the four centres in 1897 was 2,013—viz., 1,378 in the cities, and 635 in the suburbs. In 1896 the number was 1,918: 1,302 in the cities, and 616 in the suburbs.

By including the suburbs the death-rate for last year is lowered at each of the four centres, the difference being most noticeable in Christchurch (1·61) and Dunedin (1·86). The rates for the year are :—

	Death-rate per 1,000 of Population.
Auckland City	12·99
" and five suburban boroughs ..	12·14
Wellington City	12·03
" and three suburban boroughs ..	11·25
Christchurch City	13·15
" and four suburban boroughs ..	11·54
Dunedin City	11·81
" and eight suburban boroughs ..	10·45

MORTALITY AT FOUR CENTRES, INCLUDING SUBURBS.

The death-rate is thus shown to be highest in Auckland, with suburbs, and lowest in Dunedin; Christchurch and Wellington taking second and third places respectively. The death-rate for the colony was 9·14 per 1,000 of mean population. The four centres, as might be expected, each show a higher average than this.

If the number of deaths of infants under one year be excluded, the mortality among the rest of the population would be in the following ratio to the 1,000 living :—

Auckland (including suburbs) ..	8·97	Christchurch (including suburbs)	9·17
Wellington	8·79	Dunedin	9·28

The degree of infantile mortality may be exhibited in the proportion of deaths of children under one year of age to every 100 births. For 1897 the proportions at the chief centres are,—

Auckland (including suburbs) ..	12·54	Christchurch (including suburbs)	11·25
Wellington	9·84	Dunedin	6·30

Thus the proportion at Dunedin is about half that found at Auckland. The percentage of deaths of children under 5 to the total number of deaths is: in Auckland, 34·13; in Wellington, 28·73; in Christchurch, 24·78; in Dunedin, only 14·29. The total of deaths under 5 is 541, or 26·88 per cent. of all deaths, as against 613 and 31·96 for 1896. The deaths of persons of 65 and upwards numbered 442 last year; in 1896 they were 363.

MORTALITY AT FOUR CENTRES, EXCLUDING SUBURBS.

Excluding suburbs, and dealing only with the deaths at all ages in the four cities or central boroughs only, the rates for 1897 are found to be higher in Wellington, Christchurch, and Dunedin than in the previous year, but considerably lower in Auckland. The total number of deaths and the death-rates for three years are given :—

Cities (excluding Suburbs).	Deaths, 1895.		Deaths, 1896.		Deaths, 1897.	
	No.	Per 1,000 of Population.	No.	Per 1,000 of Population.	No.	Per 1,000 of Population.
Auckland ..	471	14·87	453	14·42	416	12·99
Wellington ..	462	13·07	434	11·59	463	12·03
Christchurch ..	191	10·83	195	11·49	226	13·15
Dunedin ..	244	10·21	219	9·60	273	11·81

By omitting the deaths of infants under one year, and calculating the rate on the population of one year of age and upwards, the position of the four cities as regards magnitude of death-rate is altered materially, Dunedin now taking first place.

Deaths per 1,000 of Population, excluding Infants (under One Year of Age).

	1894.	1895.	1896.	1897.
Auckland (excluding suburbs) ..	11·53	11·02	10·02	9·64
Wellington ..	9·40	9·84	9·17	9·35
Christchurch ..	8·69	8·70	8·86	10·65
Dunedin ..	9·66	9·67	8·07	10·70

Subjoined is a table showing the rates of infant mortality in the four cities for each of the past five years, together with the mean rates for the period. In respect of both last year's rate and the mean rate, Auckland stands first and Dunedin fourth.

Deaths of Children under One Year to every 100 Births.

	1893.	1894.	1895.	1896.	1897.	Mean of Five Years.
Auckland (excluding suburbs) ..	12·64	15·12	14·86	16·48	12·80	14·38
Wellington ..	12·26	9·49	12·40	10·05	10·59	10·96
Christchurch ..	18·60	9·00	11·14	12·97	12·50	12·84
Dunedin ..	11·16	8·73	9·47	7·83	6·22	8·68

VITAL STATISTICS OF AUSTRALASIAN CAPITALS, 1897.

A comparison of the death-rates of the chief towns of New Zealand for 1897 with those of Australian capitals shows the rates in this colony to be generally lower :—

Chief Cities (including Suburbs).	Mean Population.	Births.		Deaths.		Excess of Births over Deaths.
		Total Number.	Rate per 1,000 of Population.	Total Number.	Rate per 1,000 of Population.	
Melbourne, 1896 ..	450,334	12,769	28·35	7,121	15·81	5,648
Sydney, 1897 ..	410,150	12,009	29·28	5,220	12·73	6,789
Adelaide, 1896 ..	144,782	4,341	29·98	2,123	14·66	2,218
Brisbane, 1897 ..	103,323	3,349	32·41	1,219	11·80	2,130
Perth, 1896 ..	26,831	768	28·62	554	20·65	216
Hobart, 1896 ..	36,927	917	24·83	597	16·17	320
Wellington, 1897 ..	42,931	1,179	27·46	483	11·25	696

DEATHS IN THE COLONY AT VARIOUS AGE-PERIODS.

The average age at death of persons of either sex, in each of five years, was as follows :—

			Males.	Females.
1893	..	..	31·86 years	27·79 years.
1894	..	..	36·64 "	31·59 "
1895	..	..	36·21 "	30·17 "
1896	..	..	36·80 "	32·41 "
1897	..	..	38·80 "	34·77 "

Subjoined is a classified statement of the deaths of infants under one year during 1897, with the ratio of the deaths in each class to the 1,000 births during the year :—

Year. ..	Sex.	Under 1 Month.	1 and under 3 Months.	3 and under 6 Months.	6 and under 12 Months.	Total under 12 Months.
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NUMBER OF DEATHS.

1897	..	{ Male	289	123	154	191	757
		{ Female	223	117	115	142	537

DEATHS TO THE 1,000 BIRTHS.

1897	..	{ Male	30·10	12·81	16·04	19·90	78·85
		{ Female	24·41	12·80	12·59	15·54	65·34

Seventy-nine out of every thousand of male children born, and sixty-five of every thousand females, are found to have died before attaining the age of one year. The mortality is thus nearly one in thirteen of male children and one in fifteen of females, even in New Zealand, where conditions are far more favourable to infant life than in Australia, at least as far as relates to the cities.

It will also be seen from the figures that the chances of living during the first year of age are far greater for female than for male infants. Thus, during the year 1897 there were—

100	deaths of males to 81	deaths of females under 1 month of age ;
100	"	100 " from 1 to 3 months of age ;
100	"	78 " from 3 to 6 months of age ;
100	"	78 " from 6 to 12 months of age ;
100	"	83 " under 12 months of age.

The rates of infantile mortality—that is, the proportion the deaths of children under one year of age bear to the births—are, as previously stated, higher in the Australian Colonies than in New Zealand. The following table gives the rate in the several colonies named for each of the ten years, 1883–92 :—

NUMBER OF DEATHS OF CHILDREN UNDER ONE YEAR OF AGE TO EVERY
100 BIRTHS.

Year.	Queens- land.	New South Wales.	Victoria.	South Australia.	Tas- mania.	New Zealand.
1883 ..	13.34	11.48	11.44	14.56	12.39	10.39
1884 ..	14.74	12.62	11.37	13.42	9.98	7.93
1885 ..	14.85	13.12	12.57	11.34	11.26	8.92
1886 ..	12.59	12.85	12.73	12.62	10.48	9.84
1887 ..	11.29	10.59	13.00	11.12	10.09	9.38
1888 ..	12.07	11.09	12.75	9.59	9.43	7.07
1889 ..	13.62	12.50	15.21	9.42	10.64	7.89
1890 ..	10.05	10.45	11.74	9.65	10.55	7.87
1891 ..	10.12	11.89	12.62	9.09	9.45	9.12
1892 ..	10.68	10.60	10.68	9.67	9.91	8.92

CAUSES OF DEATH.

The deaths registered in the colony during the last five years, when distributed among the several classes according to their assigned causes, give the rates shown hereunder:—

Causes of Death.	Rate per 10,000 living.				
	1893.	1894.	1895.	1896.	1897.
Zymotic diseases	17.95	14.12	11.24	10.24	8.44
Parasitic diseases	0.36	0.32	0.36	0.24	0.18
Dietetic diseases	1.07	0.63	0.81	0.86	0.84
Constitutional diseases	17.56	19.42	18.95	17.06	17.99
Developmental diseases	7.65	8.04	7.12	7.25	7.46
Local diseases	46.40	45.22	48.60	43.31	45.30
Violence	8.24	10.26	8.62	8.32	7.55
Ill-defined and not-specified causes ..	3.09	3.84	3.42	3.72	3.63
All causes	102.32	101.85	99.12	91.00	91.39

Fifty in every one hundred deaths in 1897 were from local diseases, of which diseases of the respiratory system formed 12 per cent., diseases of the circulatory system and of the nervous system 11 per cent. (each), while diseases of the digestive system contributed 9 per cent. Constitutional diseases, including, with others, phthisis and cancer, comprised 20 per cent. of the total mortality. Nine per cent. of deaths were from zymotic causes, including 5 per cent. from miasmatic diseases, and 4 per cent. from diarrhoeal. The violent deaths come next in proportion, being 8.26 per cent. of the whole, and are closely followed by deaths from developmental diseases, 8.16 per cent.

Causes of Death.	Number of Deaths.				Proportion to Total Deaths.				Proportion per 10,000 living.	
	Male.		Female.		Male.		Female.		1897.	1896.
					Per Cent.	Per Cent.	Per Cent.	Per Cent.		
Class I. Specific febrile or zymotic diseases,— Order 1. Miasmatic diseases	142	139	...	281	3.75	4.26	3.90	3.90	4.48	4.48
" 2. Diarrheal diseases	138	119	...	257	3.64	3.90	3.56	3.56	4.72	4.72
" 3. Malarial diseases	1	...	...	1	0.02	0.01	...	0.01	0.03	0.03
" 4. Zoonous diseases	...	...	...	...	...	...	...	...	...	...
" 5. Venereal diseases	15	10	...	25	0.40	0.35	0.38	0.35	0.37	0.37
" 6. Septic diseases	15	30	...	45	0.40	0.68	1.07	0.63	0.64	0.64
Total Class I.	311	208	...	609	8.21	10.61	9.23	8.44	10.54	10.54
Class II. Parasitic diseases	5	8	...	13	0.13	0.20	0.20	0.18	0.24	0.24
Class III. Dietetic diseases	46	15	...	61	1.22	0.53	0.93	0.84	0.85	0.85
Class IV. Constitutional diseases	703	595	...	1,298	18.57	21.19	19.68	17.99	17.06	17.06
Class V. Developmental diseases	287	231	...	538	7.58	8.94	8.16	7.46	7.25	7.25
Class VI. Local diseases,— Order 1. Diseases of nervous system	462	347	...	749	10.62	12.36	11.96	10.38	10.54	10.54
" 2. Diseases of organs of special sense	5	2	...	7	0.13	0.07	0.11	0.10	0.10	0.10
" 3. Diseases of circulatory system	453	297	...	750	11.96	10.58	11.37	10.39	9.23	9.23
" 4. Diseases of respiratory system	479	321	...	800	12.65	11.43	12.13	11.49	9.72	9.72
" 5. Diseases of digestive system	305	201	...	507	8.08	9.29	8.60	7.85	8.31	8.31
" 6. Diseases of lymphatic system	14	16	...	30	0.37	0.57	0.46	0.41	0.20	0.20
" 7. Diseases of urinary system	167	70	...	237	4.41	2.49	3.59	3.28	3.10	3.10
" 8. Diseases of reproductive system,— (a.) Of organs of generation	...	26	...	26	...	0.93	0.39	0.86	0.84	0.84
(b.) Of parturition	...	64	...	64	...	2.28	0.97	0.80	1.09	1.09
" 9. Diseases of locomotive system	10	11	...	21	0.26	0.30	0.32	0.29	0.35	0.35
" 10. Diseases of integumentary system	13	5	...	18	0.34	0.18	0.27	0.25	0.33	0.33
Total Class VI.	1,819	1,420	...	3,263	48.82	50.57	49.57	45.30	43.31	43.31
Class VII. Violence,— Order 1. Accident or negligence	363	98	...	461	10.12	3.49	7.29	6.66	7.26	7.26
" 2. Homicide	5	2	...	7	0.13	0.07	0.11	0.10	0.07	0.07
" 3. Suicide	44	11	...	55	1.16	0.39	0.83	0.76	0.90	0.90
" 4. Execution	2	...	...	2	0.05	...	0.03	0.03	...	...
Total Class VII.	434	111	...	545	11.46	3.95	8.26	7.55	8.32	8.32
Class VIII. Ill-defined and not-specified causes	152	110	...	262	4.01	3.92	3.97	3.63	3.72	3.72
Grand totals	3,787	2,808	...	6,595	100.00	100.00	100.00	91.39	91.00	91.00

The next table shows, for either sex, the number of deaths from each cause registered during the year 1897:—

CAUSES OF DEATH.

Class.	Causes of Death.	Males.	Females.	Total.	Class.	Causes of Death.	Males.	Females.	Total.
	Orders and Diseases.					Orders and Diseases.			
I.—SPECIFIC FEVERIL OR ZYMOTIC DISEASES.	ORDER 1.— <i>Miasmatic.</i>				II.—PARASITIC DISEASES.	Thrush ...	2	2	4
	Small-pox ...	...	...	...		Other diseases from vegetable parasites ...	...	...	...
	Chicken-pox ...	...	...	...		Hydatid disease ...	2	6	8
	Measles ...	...	1	1		Worms ...	1	...	1
	Epidemic rose-rash, rubella ...	...	...	...		Other diseases from animal parasites ...	...	...	...
	Scarlet fever, scarlatina ...	1	1	2		Total Class II. ...	5	8	13
	Typhus ...	...	...	...	III.—DIETETIC DISEASES.	Starvation ...	3	...	3
	Dengue ...	...	...	...		Want of breast-milk ...	...	5	5
	Relapsing fever ...	...	...	...		Scurvy ...	1	1	2
	Influenza ...	64	56	120		Intemperance—	...	...	...
	Whooping-cough ...	1	1	2		Chronic alcoholism ...	24	4	28
	Mumps ...	...	...	...		Delirium tremens ...	6	...	6
	Diphtheria ...	10	30	40		Other dietetic diseases ...	9	5	14
	Cerebro-spinal fever ...	...	...	...		Total Class III. ...	46	15	61
	Simple and ill-defined fever ...	...	1	1	IV.—CONSTITUTIONAL DISEASES.	Rheumatic fever ...	20	15	35
	Enteric fever, typhoid ...	57	49	106		Rheumatism ...	12	5	17
	Other miasmatic diseases ...	...	...	...		Gout ...	4	1	5
	Total Order 1 ...	142	139	281		Rickets ...	...	1	1
	ORDER 2.— <i>Diarrhœal.</i>					Cancer ...	210	185	395
	Simple cholera ...	14	11	25		Tabes mesenterica, tubercular peritonitis ...	24	20	44
	Diarrhœa ...	117	103	220		Tubercular meningitis, acute hydrocephalus ...	26	39	65
	Dysentery ...	7	5	12		Phthisis ...	324	272	596
	Total Order 2 ...	138	119	257		Other forms of tuberculosis, scrofula ...	32	26	58
	ORDER 3.— <i>Malarial.</i>					Purpura, hemorrhagic diathesis ...	4	2	6
	Remittent fever ...	...	...	...		Anæmia, chlorosis, leucocythæmia ...	15	4	19
	Ague ...	...	...	...		Diabetes mellitus ...	26	20	46
	Beriberi ...	1	...	1		Other constitutional diseases ...	6	5	11
	Total Order 3 ...	1	...	1	V.—DEVELOPMENTAL DISEASES.	Total Class IV. ...	703	595	1,298
	ORDER 4.— <i>Zoogenous.</i>					Premature birth ...	114	97	211
	Hydrophobia ...	...	...	...		Atelectasis ...	4	4	8
	Glanders ...	...	...	...		Cyanosis ...	7	4	11
	Splenic fever ...	...	...	...		Spina bifida ...	...	7	7
	Cow-pox and other effects of vaccination ...	...	...	...		Imperforate anus ...	2	...	2
	Total Order 4 ...	...	...	...		Cleft palate, hare-lip ...	...	1	1
	ORDER 5.— <i>Venereal.</i>					Other congenital defects ...	15	8	23
	Syphilis ...	8	10	18		Old age ...	145	130	275
	Gonorrhœa, stricture of urethra, ulcer of groin ...	7	...	7		Total Class V. ...	287	251	538
	Total Order 5 ...	15	10	25	VI.—LOCAL DISEASES.	ORDER 1.— <i>Diseases of Nervous System.</i>			
	ORDER 6.— <i>Septic.</i>					Inflammation of the brain or its membranes ...	47	38	85
	Phagedæna ...	...	...	...		Cerebro-spinal meningitis ...	2	7	9
	Erysipelas ...	7	1	8		Apoplexy ...	98	94	192
	Pyæmia, septicæmia ...	8	11	19		Softening of brain ...	11	4	15
	Puerperal fever, pyæmia, septicæmia ...	...	18	18		Hemiplegia, brain paralysis ...	15	16	31
	Total Order 6 ...	15	30	45					
	Total Class I. ...	311	298	609					

CAUSES OF DEATH—continued.

Class.	Causes of Death.	Males.	Females.	Total.	Class.	Causes of Death.	Males.	Females.	Total.
	Orders and Diseases.					Orders and Diseases.			
VI.—LOCAL DISEASES—continued.	ORDER 1.— <i>Diseases of Nervous System</i> —contd.				VI.—LOCAL DISEASES—continued.	ORDER 5.— <i>Diseases of Digestive System.</i>			
	Paralysis (undescribed)...	52	37	89		Stomatitis, cancrum oris	2	3	5
	Paralysis agitans	4	...	4		Dentition	25	17	42
	Insanity, general paralysis of insane	32	11	43		Sore throat, quinsy	4	2	6
	Chorea	...	...	...		Dyspepsia	2	1	3
	Epilepsy	19	21	40		Hæmatemesis	...	1	1
	Convulsions	66	68	134		Melæna	1	...	1
	Laryngismus stridulus	...	...	...		Diseases of stomach, gastritis	30	32	62
	Idiopathic tetanus	2	2	4		Enteritis	82	73	155
	Paraplegia, diseases of spinal cord	15	10	25		Ulceration, perforation, of intestine	8	8	16
	Locomotor ataxia	7	2	9		Ileus, obstruction of intestine	16	26	42
	Other diseases of nervous system	31	37	68		Stricture or strangulation of intestine	3	3	6
	Total Order 1	402	347	749		Intussusception of intestine	7	5	12
	ORDER 2.— <i>Diseases of Organs of Special Sense.</i>					Hernia	16	6	22
	Otitis, otorrhœa	3	2	5		Fistula	1	...	1
	Epistaxis, and diseases of nose	2	...	2		Peritonitis	21	31	52
	Ophthalmia, and diseases of eye	...	...	...		Ascites	1	...	1
	Total Order 2	5	2	7		Gall-stones	3	5	8
	ORDER 3.— <i>Diseases of Circulatory System.</i>					Cirrhosis of liver	34	13	47
	Endocarditis, valvular disease	283	198	481		Other diseases of liver, hepatitis, jaundice	32	26	58
	Pericarditis	3	5	8		Other diseases of digestive system	18	9	27
	Hypertrophy of heart	8	6	14		Total Order 5	306	261	567
	Fatty degeneration of heart	27	21	48		ORDER 6.— <i>Diseases of Lymphatic System and Ductless Glands.</i>			
	Angina pectoris	6	4	10		Diseases of lymphatic system	4	2	6
	Syncope	82	44	126		Diseases of spleen	3	...	3
	Aneurism	19	5	24		Bronchocele	2	11	13
	Emile gangrene	7	1	8		Addison's disease	5	3	8
	Embolism, thrombosis	2	6	8		Total Order 6	14	16	30
	Phlebitis	...	1	1		ORDER 7.— <i>Diseases of Urinary System.</i>			
	Varicose veins, piles	...	1	1		Acute nephritis	13	3	16
	Other diseases of circulatory system	16	5	21		Bright's disease	74	46	120
	Total Order 3	453	297	750		Uremia	12	8	20
	ORDER 4.— <i>Diseases of Respiratory System.</i>					Suppression of urine	1	1	2
	Laryngitis	11	4	15		Calculus	6	...	6
	Croup	19	12	31		Hæmaturia	1	...	1
	Other diseases of larynx and trachea	2	1	3		Diseases of bladder and prostate	30	2	41
	Asthma, emphysema	12	8	20		Other diseases of urinary system (kidney diseases undescribed)	21	10	31
	Bronchitis	143	121	264		Total Order 7	167	70	237
	Pneumonia	226	120	355		ORDER 8.— <i>Diseases of Reproductive System.</i>			
	Pleurisy	23	19	42		(a.) Diseases of organs of generation,—			
	Other diseases of respiratory system	37	27	64		Ovarian disease	...	11	11
	Total Order 4	479	321	800					

CAUSES OF DEATH—continued.

Class.	Causes of Death.	Males.	Females.	Total.	Class.	Causes of Death.	Males.	Females.	Total.
	Orders and Diseases.					Orders and Diseases.			
VI.—LOCAL DISEASES—continued.	ORDER 8.— <i>Diseases of Reproductive System—ctd.</i>				VII.—VIOLENCE.	ORDER 1.— <i>Accident or Negligence.</i>			
	(a.) Diseases of organs of generation— <i>ctd.</i>					Fractures, contusions ...	155	25	180
	Diseases of uterus and vagina ...	...	13	13		Gunshot wounds ...	10	...	10
	Disorders of menstruation ...	...	1	1		Cut, stab ...	8	1	9
	Pelvic abscess ...	...	1	1		Burn, scald ...	30	24	54
	Perineal abscess ...	...	...	...		Sunstroke ...	...	...	...
	Diseases of testes, penis, scrotum, &c. ...	...	...	...		Poison ...	11	4	15
	(b.) Diseases of parturition,—					Drowning ...	142	32	174
	Abortion, miscarriage ...	...	14	14		Suffocation ...	12	5	17
	Puerperal mania ...	...	...	...		Otherwise ...	15	7	22
	Puerperal metritis ...	...	...	...		Total Order 1 ...	383	98	481
	Puerperal convulsions ...	...	10	10		ORDER 2.— <i>Homicide.</i>			
	Placenta previa (flooding) ...	...	11	11		Murder, manslaughter ...	*5	2	7
	Phlegmasia dolens ...	...	3	3		Wounds in battle ...	...	...	...
	Other accidents of childbirth ...	...	26	26		Total Order 2 ...	5	2	7
	Total Order 8 ...	...	90	90		ORDER 3.— <i>Suicide.</i>			
	ORDER 9.— <i>Diseases of Organs of Locomotion.</i>				VIII.—ILL-DEFINED AND NOT-SPECIFIED CAUSES.	Gunshot wounds ...	9	...	9
	Caries, necrosis ...	8	8	16		Cut, stab ...	10	...	10
	Arthritis, osteitis ...	1	...	1		Poison ...	8	6	14
	Other diseases of organs of locomotion ...	1	3	4		Drowning ...	5	5	10
	Total Order 9 ...	10	11	21		Hanging ...	11	...	11
	ORDER 10.— <i>Diseases of Integumentary System.</i>					Otherwise ...	1	...	1
	Carbuncle ...	...	2	2		Total Order 3 ...	44	11	55
	Phlegmon, cellulitis ...	3	1	4		ORDER 4.— <i>Execution.</i>			
	Lupus ...	...	1	1		Hanging ...	2	...	2
	Ulcer, bed-sore ...	1	...	1		Total Class VII. ...	434	111	545
	Eczema ...	5	...	5		Dropsy ...	...	...	...
	Pemphigus ...	1	1	2		Marasmus, &c. ...	125	100	225
	Other diseases of integumentary system ...	3	...	3		Mortification, gangrene ...	3	1	4
	Total Order 10 ...	13	5	18		Tumour ...	1	2	3
	Total Class VI. ...	1,849	1,420	3,269		Abscess ...	2	1	3
						Hæmorrhage ...	...	1	1
						Sudden (cause unascertained) ...	15	5	20
						Other ill-defined and not-specified causes ...	6	...	6
						Total Class VIII. ...	152	110	262
						General totals ...	3,787	2,808	6,595

* One non-culpable homicide.

MORTALITY FROM PRINCIPAL ZYMOTIC AND FEBRILE DISEASES.

The deaths in 1897 from specific febrile or zymotic diseases amounted to 609, a proportion of 8·44 in every 10,000 persons living, and a decrease of 115 on the number of deaths in 1896 from the same causes.

The following are the diseases in this class that have caused the greatest mortality during the past ten years:—

Diseases.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Measles ..	5	2	1	1	..	525*	14	..	1	1
Scarlet fever and scarlatina	21	19	31	24	4	1	5	..	4	2
Diphtheria ..	143	113	116	86	195	128	92	76	74	49
Whooping-cough ..	72	19	82	242	115	55	190	150	24	2
Influenza ..	9	9	70	210	144	106	233	135	89	120
Diarrhoeal diseases	214	355	290	319	329	193	207	232	334	257
Enteric or typhoid fever	130	118	145	119	134	97	115	94	124	106
Puerperal fever ..	39	25	19	27	29	24	38	32	10	18

* Including rubeola, 14.

VACCINATION.

From smallpox there were no deaths. By means of further expenditure in remunerating vaccination inspectors, the number of vaccinations registered has been raised from 8,523 in 1895, to 12,440 in 1897. Many of the inspectors received no special payment on account of their work in regard to vaccinations until 1896, when, considering the nature of the duties, the Government deemed it desirable to offer some inducement that would lead to fuller results. Inspectors who are salaried officers of Government now receive 1s. for each case of successful vaccination of children under fourteen years registered, and Inspectors not being Government officers receive 1s. 6d. per case for the same service. The number of children under one year of age successfully vaccinated, and the proportion to the total number of births, are given for 1897 and the ten preceding years:—

—	Total Vaccinations registered.	Number of Births registered.	Proportion of Successful Vaccinations of Children under 1 Year of Age to Total Births. Per Cent.	Proportion of Successful Vaccinations of Children under 14 Years of Age to Total Births. Per Cent.
Totals, 1897 ..	12,440	18,733	32.89	66.41
" 1896 ..	11,917	18,612	30.78	64.03
" 1895 ..	8,523	18,546	31.72	44.34
" 1894 ..	9,322	18,528	32.42	50.31
" 1893 ..	7,412	18,187	28.09	40.75
" 1892 ..	8,216	17,876	32.41	45.96
" 1891 ..	9,284	18,273	38.81	50.81
" 1890 ..	9,357	18,278	42.66	51.19
" 1889 ..	11,913	18,457	48.37	64.55
" 1888 ..	12,782	18,902	51.10	67.62
" 1887 ..	12,919	19,135	53.79	67.52

The figures for last year show better than those for 1896, but the proportion of children under one year of age who were successfully vaccinated to the total births is less than 33 per cent., and goes to prove that only one child in every three born is successfully vaccinated, a serious matter when the possibility of an epidemic of smallpox is taken into consideration.

Nevertheless, for a matter so peculiar as vaccination, and so differently regarded by many persons (see evidence taken by the Royal Commission in England), the above results are not to be despised, and indeed would not have been so well maintained but for special exertions made lately by Registrars of Births who are also Vaccination Inspectors. Further, it may be said that comparison with such colonies as New South Wales shows New Zealand to be more careful in regard to the prevention of smallpox than some others.

Mr. Coghlan, for instance, writes that "Vaccination is not compulsory in New South Wales, and is resorted to chiefly in times of scare, when an epidemic of small-pox is thought to be imminent. It is easy to discern," says he, "from the returns the years when the community was threatened by the disease." Thus, in 1881, the Government Vaccinators in New South Wales vaccinated 61,239 persons; in 1883, only 896; of late years averaging about 2,000 per annum, but only 945 in 1896.

In England, after three years practical immunity from smallpox, the deaths rose in 1892 to 431, or 15 per million persons living. In 1893 there was a further rise to 1,457, or a rate of 49 per million living; but in 1894 the rate fell to 820, or 27 per million, and in 1895 to 233, or 7 per million. The Registrar-General remarks that "of the 223 persons whose deaths were recorded in 1895 only 33, or 15 per cent., were described as having been vaccinated; 61, or 27 per cent., were returned as not vaccinated; and with respect to the remaining 58 per cent. no statement as to vaccination appeared in the certificates. In addition to the above, 86 deaths were attributed to chicken-pox, and 56 deaths to 'effects of vaccination.' Thus, in the year 1895 the total number of deaths either certainly or possibly caused by variola, and of deaths alleged to have been caused by the means taken to prevent that disease, was 365, or 12 per million persons living." A system, described as "moderate compulsion," has been recommended in England, under which persons who had been fined £1, or had been fined in two penalties of any amount, for neglecting to have their children vaccinated would be exempted from any further proceedings.

ZYMOTIC AND FEBRILE DISEASES CONTINUED.

Measles, which was epidemic in 1893, caused only 14 deaths in 1894, none in 1895, and only 1 each in 1896 and 1897. Scarletina was fatal in two cases. The mortality from diphtheria, whooping-cough, and diarrhoeal diseases fell during 1897. The deaths from influenza numbered 120, against 89 in 1896, 125 in 1895, and 233 in 1894, and show this disease to be still contributing largely to the mortality. Deaths from typhoid fever decreased from 124 in 1896 to 106 in 1897.

The proportions for the several Australasian Colonies for the years 1887-92 were:—

DEATHS FROM TYPHOID FEVER, 1887-92, PER 10,000 PERSONS LIVING.

	1887.	1888.	1889.	1890.	1891.	1892.
Queensland ..	7·07	6·31	10·28	3·40	3·11	3·05
New South Wales ..	4·32	4·26	5·35	2·82	2·35	2·81
Victoria ..	6·21	5·13	8·35	5·46	3·10	2·59
South Australia ..	4·92	3·84	4·37	3·13	2·52	2·70
Western Australia ..	3·12	1·65	1·16	0·42	2·34	9·83
Tasmania ..	8·37	6·12	8·06	3·41	5·57	3·01
New Zealand ..	2·82	2·30	1·98	2·40	1·89	2·20

PARASITIC DISEASES.

There were 13 deaths from parasitic diseases, the proportion per 10,000 living being 0·18. Two men and six women died from hydatids.

DIETETIC DISEASES: MORTALITY IN LIQUOR TRADE (ENGLAND).

Under the class "Dietetic Diseases" are included 34 deaths from intemperance. But these cannot be said to represent the full extent of the mortality really caused by the abuse of alcoholic liquors. Many deaths of intemperate persons are attributed to disease of the liver, kidneys, &c., in the medical certificates. It is possible to calculate the mortality of persons engaged in the liquor trade, and this has been done for England by the Registrar-General there, who publishes a table relating to males in seven age-groups, and the mortality rates are compared with those of all occupied males at corresponding ages:—

—	15-20.	20-25.	25-35.	35-45.	45-55.	55-65.	65 and upwards.
Occupied males	100	100	100	100	100	100	100
Brewer	105	110	149	153	149	148	126
Publican (innkeeper, inn servant)	94	135	207	197	171	144	101
" London	101	128	201	220	199	164	116
" Industrial districts	71	122	247	221	209	166	113
" Agricultural districts	75	71	156	160	135	127	99

He remarks: "The mortality of persons directly engaged in the supply of spirituous liquors still continues to be enormous. Up to the age of twenty-five years brewers experience little more than the average mortality, but after that age the baneful influence of their employment rapidly becomes apparent. Their mortality throughout the main working period of life exceeds that of occupied males by about 50 per cent. At all ages after the twentieth year publicans are subject to a death-rate which is much higher than the average among occupied males, while at the age-groups 25-35 and 35-45 years the rates are just double the average. . . . The comparative mortality figure of brewers is 1,427, that of publicans is 1,838 in London, 1,948 in the industrial districts, and 1,348 in the agri-

cultural districts, as against 953—the standard figure for occupied males. . . . Taking publicans without distinction of locality, a table shows that they die seven times as fast as do occupied males from alcoholism, $6\frac{1}{2}$ times as fast from diseases of the liver, six times as fast from gout, and more than double as fast from diseases of the urinary system, from rheumatic fever, from diabetes, and from suicide.

“ Among publicans in London the case is in some respects worse. Their mortality from all causes is nearly double that of all occupied males taken as a standard. They die nearly ten times as fast from alcoholism, $3\frac{1}{2}$ times as fast from diseases of the liver, and more than twice as fast from affections of the urinary organs and from suicide.”

Deaths.	Occupied Males.	Publican and Servant.	
		England and Wales.	London.
All causes	100	174	193
Influenza	100	139	158
Alcoholism	100	723	977
Rheumatic fever	100	229	243
Gout	100	600	550
Cancer	100	120	152
Phthisis	100	168	242
Diabetes	100	271	343
Diseases of nervous system	100	181	137
Diseases of circulatory system	100	151	163
Diseases of respiratory system	100	135	174
Diseases of the liver	100	644	378
Other diseases of digestive system	100	168	136
Diseases of urinary system	100	210	224
Accident	100	82	93
Suicide	100	207	243
All other causes	100	135	109

CONSTITUTIONAL DISEASES: PHTHISIS, CANCER, ETC.

The deaths from constitutional diseases in 1897 numbered 1,298, or 17.99 per 10,000 of population. The most fatal diseases in this class were phthisis and cancer.

From phthisis there are more deaths than from any other cause. The number of deaths was 596 in 1897, against 523 in 1896. The deaths in 1897 were in the proportion of 8.26 in every 10,000 persons living, against 7.40 in the previous year.

Figures for ten years are quoted, showing that the total number of deaths from this disease and the rate per 10,000 living are the highest recorded during the decennium with the exception of 1890, in which year the rate was 8.38.

Year.				Deaths from Phthisis.	Rate per 10,000.
1888	..	..	..	476	7.86
1889	..	..	..	499	8.16
1890	..	..	..	520	8.38
1891	..	..	..	495	7.86
1892	..	..	..	524	8.16
1893	..	..	..	545	8.24
1894	..	..	..	576	8.48
1895	..	..	..	553	7.99
1896	..	..	..	523	7.40
1897	..	..	..	596	8.26

The death-rate from phthisis in New Zealand is the lowest for the Australasian Colonies, as will be seen from the figures quoted below:—

DEATH-RATES FROM PHTHISIS PER 10,000 PERSONS LIVING.

	1890.	1891.	1892.
Queensland ..	13.35	12.38	10.17
New South Wales ..	9.34	9.21	8.62
Victoria ..	14.58	12.93	13.60
South Australia ..	9.29	10.36	9.41
Western Australia ..	8.97	9.56	8.40
Tasmania ..	9.60	9.00	8.44
New Zealand ..	8.38	7.86	8.16

In all the Australasian Colonies the rate is materially increased by the deaths of persons who have come out either already suffering from phthisis or predisposed thereto. There is no reason for believing that this circumstance has more effect on the death-rate in Australia than in New Zealand; so that the lower rate obtaining in this colony may be taken as proof of the superiority of its climate for withstanding consumptive tendencies.

The death-rate of England and Wales from phthisis is far higher than that of New Zealand. In 1895 it stood at 13.98 per 10,000. The Registrar-General of England remarks in his report that "up to the year 1888 the mortality from phthisis had shown a steady decline for many years, but in 1889, 1890, and 1891 it rose somewhat. In 1892 and 1893, however, the rate fell again to 1,468 in a million, and again in 1894 to 1,385 per million, which is the lowest rate on record." In 1895 the rate increased slightly to 1,398 per million.

Phthisis is now known to be and is treated as an infectious preventible disease caused by the bacillus tuberculosis, which is communicable in many ways. Certain constitutions are far more predisposed than others to receive this bacillus, especially under conditions of life unfavourable to robust health, when a nidus is formed for the development of the bacillus.

Legislative action has been recommended to safeguard the life and health of the people from tubercle; and the complete isolation of consumptive patients, with the disinfecting of their sputa, and of everything that has been in contact with them, is suggested from time to time as a necessary measure.

From other forms of tuberculosis the deaths in 1897 were 167, or 2.31 per 10,000 of population.

CANCER.

The deaths from cancer during the year 1897 were 395. There were more deaths of males than of females, the numbers being, males 210, females, 185. The rate of mortality per 10,000 living was 5·47. The apparent increase in deaths from this disease is shown below and compared with that of England. But the increase is not believed by all authorities to be a fact to the extent represented, but partly the result of more careful certification of the causes of death, and of improved diagnosis, in cases of what is termed inaccessible cancer.

It is certain, however, that out of a total of 6,595 deaths from all causes in New Zealand during 1897, 395, or 6 per cent., were caused by cancer.

DEATHS FROM CANCER IN EVERY 10,000 PERSONS LIVING.

Year.					New Zealand.	England.
1881 ..	..	..	..	..	2·69	5·20
1886 ..	..	..	..	..	3·68	5·90
1891 ..	..	..	..	..	4·68	6·92
1896 ..	..	..	..	..	5·50	7·55 (1895)

The following table gives the death-rates from cancer in New Zealand of males and females for the past twelve years :—

DEATHS FROM CANCER IN EVERY 10,000 PERSONS OF EACH SEX LIVING IN NEW ZEALAND.

Year.			Males.	Females.	Year.			Males.	Females.
1886 ..	..	..	3·69	3·67	1892 ..	..	..	5·08	4·44
1887 ..	..	..	3·96	4·03	1893 ..	..	..	5·35	4·65
1888 ..	..	..	4·19	4·53	1894 ..	..	..	6·65	5·27
1889 ..	..	..	3·47	4·06	1895 ..	..	..	5·67	5·37
1890 ..	..	..	4·72	4·79	1896 ..	..	..	5·49	5·51
1891 ..	..	..	4·61	4·77	1897 ..	..	..	5·51	5·43

The increase since 1881 is well exhibited in respect of each sex, and in regard to the higher ages which are the periods at which the cancer deaths occur, by a proportional statement :—

PROPORTIONS OF DEATHS FROM CANCER PER 10,000 MALES AND FEMALES LIVING AT THREE AGE-PERIODS.

Year.	40 to 50.				50 to 60.				60 to 70.			
	Males.		Females.		Males.		Females.		Males.		Females.	
1881 ..	..	5·58	..	9·80	..	11·10	..	22·57	..	22·86	..	43·78
1896 ..	..	6·79	..	11·60	..	22·00	..	32·80	..	41·86	..	44·74

Deaths from diabetes mellitus fell from 46 in 1895 to 30 in 1896, but again increased to 46 in 1897. In 1894 there were 49 deaths from this cause, the highest number that has been recorded.

MORTALITY FROM DEVELOPMENTAL DISEASES.

The total of deaths from developmental diseases was 538, or 7·46 per 10,000 persons living. The mortality from premature birth comprised 211 deaths, and that from other congenital defects 52 deaths. The proportion of deaths from premature birth varies from 9 to 12 out of every 1,000 births, and that from congenital defects from 2 to 4 per 1,000 births. Particulars for five years exhibit the annual rates :—

NUMBER AND PROPORTIONS PER 1,000 BIRTHS.

Year.	Deaths from Premature Birth.		Deaths from Congenital Defects.	
	No.	Proportion per 1,000.	No.	Proportion per 1,000.
1898	228	12.54	69	3.79
1894	214	11.55	74	3.99
1895	183	9.87	78	4.21
1896	230	12.36	46	2.47
1897	211	11.26	52	2.78

Stating the result in another way, there was one death from premature birth to every 89 births in 1897, and one death from congenital defect to every 360 births. In England the proportion of deaths from premature birth to every 1,000 births was as high as 18.98 in the year 1895.

OLD AGE.

Deaths from old age in 1897 numbered 275, against 236 in 1896.

The remarks of Mr. James Pullar, F.F.A., in a paper read before the Insurance Institute of Victoria on the 9th September, 1896, are important, but disquieting to persons who have thought that longer life may be expected in these days than formerly by persons who have passed middle age. He says:—

I do not think I can do better than to submit some of the points brought forward by Sir J. C. Browne in an address on "Old Age" delivered at the opening of the Yorkshire Medical Department a few years ago.

The increased vitality of the nation, as evidenced by comparative ratios of mortality, when investigated, is shown to be mainly amongst infants, children, and young persons. After age forty-five the decline was insignificant, and from sixty-five to seventy-five there had actually been an increase in the death-rate. Premature old age is held to be accountable for this.

"Certain groups of diseases which must be mainly traced to the excessive wear and tear of modern life were the cause. While increasing mortality from degenerative diseases diminished the prospect of enjoying a ripe old age, the increasing prevalence of minor degenerative changes enhanced the probability that men and women would be plunged into a premature old age, and become decrepit, while still in what used to be considered the prime of life.

"Men and women were growing old before their time. Old age was encroaching on the strength of manhood, and the infirmities associated with it were stealthily taking possession of the system some years earlier than they were wont to do in former generations. Deaths due simply to old age were now reported between forty-five and fifty-five years of age, and in large numbers between fifty-five and sixty; and there had been a reduction in the age at which atrophy and debility killed those who had passed middle life. Senile insanity, due to atrophy of the brain, or exaggerated dotage, was far more common than it ever was, and, on the average, declared itself at an earlier age than formerly."

The preceding quotations are a heavy indictment against the restless spirit of the age; and, while it is held to be quite beyond the power of medical science to promote a typical old age on a large scale, we can all give our support to movements which have for their basis the betterment of the race. It has been strongly maintained—and with good warrant, I believe—that one of the most important factors in averting madness and in prolonging life was the great life-insurance movement of the present century. We must, however, admit that this has not been so successfully brought into touch with the poorer classes of the community in this colony as in Britain; and the whole tendency of the old-age pension movement would undoubtedly be towards an increase of that tranquillity of mind which a guarantee of a provision in old age would be certain to induce.

MORTALITY FROM LOCAL DISEASES.

Deaths by diseases of the nervous system were 749, or 11·36 out of every 100 deaths from all causes, and 10·38 out of every 10,000 persons living. Of the 749 deaths, 193 were credited to apoplexy, 134 to convulsions, and 94 to inflammation of the brain and its membranes. Paralysis, including hemiplegia, paralysis of the insane, and paraplegia, caused 182 deaths, and locomotor ataxia 9 deaths. Deaths from nervous diseases (excluding convulsions of children) numbered 615, or 8·52 per 10,000 persons living.

Diseases of the circulatory system resulted in 750 deaths, being 11·37 out of every 100 from all causes, and 10·39 per 10,000 persons living. Of the total number in this order, endocarditis and valvular disease of heart contributed 481 deaths. From angina pectoris there were 10 deaths, from syncope 126, from aneurism, 24; and from other forms of heart disease (hypertrophy, fatty degeneration, and pericarditis) 70.

Diseases of the respiratory system show 800 deaths, of which 619 were attributable to bronchitis and pneumonia. Taken together, these two complaints were the cause of more deaths than was phthisis, and adding 48 from pleurisy, 31 from croup, 15 from laryngitis, and 87 from other respiratory diseases, the mortality in the order is found to be 12·13 per cent. of the total deaths, and 11·09 per 10,000 of the population.

Deaths from diseases of the digestive system also formed a large proportion of the whole (8·60 per cent.), the number being 567. Enteritis was most fatal, showing 155 deaths, and gastritis 62, liver diseases coming next with 105 deaths.

Of 237 deaths from diseases of the urinary system in 1897, the deaths from Bright's disease of the kidneys (albuminuria) numbered 120. In the year 1891, with a smaller population, the mortality was 102 deaths; but for the years 1885-86-87 the deaths were only 53, 57, and 46 respectively.

VIOLENT DEATHS.

Deaths by violence form a large item in the total mortality. In 1897 the proportion per 10,000 of persons living was 7·55, the total number of deaths having been 545.

Of 434 males who died violent deaths, 44 were suicides. The deaths of females by violence were far fewer than those of males, amounting to no more than 111, and out of these only 11 committed suicide. The table on page 138 gives the full list of deaths from external or violent causes for the year 1897.

Accidental deaths numbered 481, males 383 and females 98. Of the total male deaths, 155 resulted from fractures or contusions, and 142 from drowning. Of the female deaths, 32 were due to drowning.

The following figures, taken from the Victorian Year-book of 1894, show the death-rate from violence in the Australasian Colonies and the United Kingdom, from which it would appear that the rate in New Zealand is higher than in the Home-country, South Aus-

tralia, Victoria, and Tasmania, but lower than in New South Wales, Queensland, and Western Australia :—

Colonies or Countries.	Proportion of Deaths by Violence per 100,000 living.
Queensland	163·8
Western Australia	161·7
New South Wales	111·7
New Zealand	95·7
Victoria	94·6
United Kingdom	77·5
Tasmania	74·5
South Australia	74·2

NUMBER OF MEDICAL MEN.

At the time of the census, April, 1896, there were in the colony 411 medical men stated to be in practice, against 362 returned in 1891. (The number of medical practitioners registered in the colony is 672, including 58 whose addresses are not known and 140 who have left New Zealand.) Medical students numbered 48. There were 82 persons who are grouped in the detailed tables of the census as irregular medical practitioners, including, among others, 5 Chinese doctors, 31 herbalists and 11 assistants, and 11 medical galvanists.

HOSPITALS, LUNATIC ASYLUMS, BENEVOLENT ASYLUMS, AND CHARITABLE INSTITUTIONS.

Hospitals.

Prior to the abolition of provinces the hospitals of the colony were supported mainly out of provincial revenues. After that event the expenditure for hospitals was for the most part charged against the revenue of counties and municipal corporations, until October, 1885, when "The Hospitals and Charitable Institutions Act, 1885," came into force.

The portion of the colony included within the three principal islands—the North, Middle, and Stewart Islands—was by the above Act divided into twenty-eight hospital districts, each consisting of one or more counties with the interior boroughs, to be presided over by elective Boards, designated "Hospital and Charitable Aid Boards."

The revenues of these Boards accrue from the following sources :—

- (1.) Rents and profits of land and endowments vested in the Board, or set apart for the benefit of particular institutions ;
- (2.) Voluntary contributions ;
- (3.) Grants from contributory local authorities ; and
- (4.) Subsidies from the Consolidated Fund (these being at the rate of 10s. for every £1 of bequests, but in no case exceeding £500 in respect of any one bequest ; £1 4s. for every £1 of voluntary contributions ; and £1 for every £1 received from any local authority).

The contributory local authorities (being the County and Borough Councils, and Boards of road and town districts where the Counties

Act is not in force) are empowered by the Act to raise by special rates the amounts assessed by the Hospital District Boards as their proportionate contributions to the Hospital and Charitable-aid Fund.

The District Boards undertake the general management and control of those hospitals that are not incorporated in terms of the Act, and are required to contribute to the support of the incorporated hospitals. To be incorporated a hospital must have as many as 100 subscribers, contributing not less than £100 annually by amounts of not less than 5s., and must have been declared by the Governor in Council, after receipt by him of a duly signed petition, to be a body politic and corporate, under the government of trustees.

There are 41 hospitals in the colony, of which 22 are incorporated institutions, while 19 are directly managed and controlled by District Boards. In 1897 these hospitals afforded accommodation for 1,093 male and 519 female patients, a total of 1,612. The number of cubic feet of space included within the walls of all the sleeping-wards was 2,235,793, which gave an average of 1,387 cubic feet to each bed. 6,957 males and 3,340 females were admitted as patients during the year 1897, and 707 male and 263 female patients were inmates at the end of the year. The total number of indoor patients during the year was 11,229—viz., 7,636 males and 3,593 females.

Outdoor relief was also given to a very large number of persons; but, as in some of the hospitals no records are kept of the outdoor patients, it is impossible to state the number of distinct persons who received such relief.

Benevolent Asylums and Charitable Institutions.

The various benevolent asylums and charitable institutions are placed on a similar footing to the hospitals. Most of the Boards of hospital districts are also Charitable-aid Boards; but, for the purpose of distributing charitable aid only, some of the hospital districts have been united into larger districts, so that, although there are thirty Boards for hospital purposes, there are only twenty-three for charitable-aid purposes.

Returns were received from sixteen benevolent asylums (not including orphanages), established for the support of indigent persons. The number of inmates in these institutions at the end of 1897 was 1,055, of whom 672 were males and 383 females. Outdoor relief was given by four of these institutions to 3,641 persons, including 1,792 children.

Auckland Sailors' Home.

There is a Sailors' Home at Auckland for the use of seafaring men resident in or visiting the town. The late Edmund Costley having left a large sum for charitable purposes, it was resolved to employ the bequest in building and endowing an institution where sailors might be received without distinction of race or religious belief, and board, lodging, and refreshments provided for them, together with such instruction and amusements as might tend to promote their social comfort and general welfare.

The Home, built in 1887, has room for 35 inmates, who are charged 15s. a week for board and lodging. It is managed by a council of eight members elected by the subscribers to the institution, with the Primate of New Zealand (the Right Rev. W. G. Cowie), who first originated the scheme, as Life President.

Orphan Asylums.

There were in 1897 four orphan asylums in the colony, one maintained by a District Hospital Board, one by the Church of England authorities, and two by clergy of the Roman Catholic Church; three of them receiving, at the charge of the State, orphan, destitute, and other children committed to them by a Stipendiary Magistrate.

Exclusive of the children so committed, 13 male and 28 female orphans were received during the year 1897, and 56 male and 90 female orphans remained as inmates at the end of the year.

Orphanages receiving committed children are, for that purpose, constituted "industrial schools."

Lunatic Asylums.

There are seven public lunatic asylums in the colony, maintained wholly or in part out of the public revenue. There is also one private asylum, licensed by the Governor for the reception of lunatics.

The amount of sleeping-accommodation provided in each of the asylums is shown in tabular form, which gives separately the number and cubic contents of the sleeping-rooms intended for one person only, and of the dormitories occupied by several inmates conjointly, together with the number of patients actually in the asylums on the 31st December, 1897:—

	Sleeping-rooms for One Person only.			Dormitories for more than One Person.		
	Number.	Aggregate Number of Cubic Feet.	Inmates (Patients) on 31st December, 1897.	Number.	Aggregate Number of Cubic Feet.	Inmates (Patients) on 31st December 1897.
Auckland ..	94	84,499	94	22	218,015	327
Wellington ..	67	60,663	67	16	100,173	247
Porirua ..	7	6,168	7	7	167,016	244
Nelson ..	30	27,116	30	15	35,380	109
Hokitika ..	18	12,301	18	8	58,266	95
Christchurch ..	81	69,651	81	34	220,296	439
Seacliff ..	139	105,886	139	32	189,617	451
Totals ..	436	366,284	436	134	988,763	1,912

At Ashburn Hall, Waikari, there are 69 rooms for one person only, with an aggregate cubic content of 101,400 ft. The number of inmates on the 31st December, 1897, was 43.

At the end of 1897, 1,440 male and 990 female patients were under the care of the asylum officers of the colony. Of these, 1,308

males and 886 females were regarded as incurable, 12 males and 27 females were out on trial, and 120 males and 77 females were supposed to be curable. 136 male and 136 female patients were discharged during the year.

The following shows the proportion of insane—or, rather, of inmates of lunatic asylums—to the population (exclusive in each case of Maoris) at the end of the years stated :—

1884,	1 insane person to every	393	of population.
1885,	"	382	"
1886,	"	370	"
1887,	"	360	"
1888,	"	365	"
1889,	"	349	"
1890,	"	348	"
1891,	"	343	"
1892,	"	339	"
1893,	"	330	"
1894,	"	316	"
1895,	"	315	"
1896,	"	308	"
1897,	"	300	"

It must not be overlooked that the proportions are increased by the admission into the asylums of inebriates, idiots, and others, who should not properly be there.

The Inspector of Hospitals and Asylums, in his report for the year 1896, specifies the causes of insanity in 466 cases (males, 296; females, 170) admitted during that year. In 51 of these (25 males, 26 females) the cause is given as "congenital or hereditary," and in 47 (males, 42; females, 5) as "drink." The proportion of cases due to drink to the total number of specified cases was therefore 10·09 per cent.

SICKNESS AND INFIRMITY.

An instruction was given in the census household schedule that in regard to all persons "unable to follow their usual occupation," by reason of sickness or accident, the fact was to be stated when the form was being filled up. And by means of the information thus obtained the proportion of persons incapacitated from work on the day of the census has been ascertained, and is shown in the tables according to age-periods.

Besides persons suffering from sickness or accident, those afflicted with certain infirmities were also distinguished. These include the "deaf-and-dumb," "blind," "lunatics," "idiots," "epileptics," "paralytic," "crippled and deformed," "debilitated and infirm."

The results of the investigation show that 9·94, or close upon 10 persons in every 1,000, were suffering from sickness or accident on the 12th April, 1896, using the word sickness to mean inability to work on that day; and that, besides these, there were 7·89, or nearly 8 persons in every 1,000, who were either affected with blindness, or deaf-and-dumb, lunatic, idiot, epileptic, &c.

These figures admit of being compared with the results obtained in New South Wales in 1891 :—

SICKNESS, ACCIDENT, AND INFIRMITY.—PROPORTIONS FOR 1,000 LIVING.

			New Zealand.	New South Wales.
Persons	..	..	17.83	19.79
Males	..	..	20.92	22.90
Females	..	..	14.36	16.18

The difference shows in favour of this colony in case of males as well as females.

The sickness and infirmity of the males is found to be higher than that of the females in each colony, and the degree of variation is practically the same in each: New Zealand showing 20 males per 1,000 living of that sex against 14 females per 1,000, and New South Wales 22 males per 1,000 against 16 females out of a similar number of females.

The numbers and proportions of males and females suffering from sickness, accident, or specified infirmity in this colony, according to age-periods, will be found tabulated in the Report on the Census. In regard to males, after the period 35-40 the proportion of sickness rises steadily at each quinquennium of age; while under accident the proportion is highest at the period of 65-70 years. The rate of sickness per 1,000 males living at 35-40 years was 5.46, and this increased to 19.08 at 55-60, to 43.66 at 65-70, and to 77.39 at 80 and upwards. In regard to females, the sickness is not so great at 30-35 years as at 25-30, but from 35-40 it increases, and from 55-60 very rapidly, though the numbers on which the proportions are based are admittedly small from this point onwards. The rates per 1,000 were 9.24 at 35-40 years, 15.59 at 55-60, and 75.09 at 80 years and upwards.

Females are proved to be very much less liable to accident than males, the proportions being 0.42 per 1,000 of females, and 2.39 per 1,000 of males; or better stated for this purpose, 4.16 per 10,000 females and 23.89 per 10,000 males. As with sickness, the proportions increase with advancing age: for instance, among males, 2.68 per 1,000 were suffering from accident at the group 20-25 years, 3.40 per 1,000 at 40-45, and 8.98 at the period 65-70 years. Among females the highest proportion per 1,000 is found at 70-75 years, being a rate of 1.81, or 18.14 per 10,000 living.

Sickness and infirmity can be compared for New Zealand, in respect of persons over 15 years of age, with the results of the census of 1891 and previously. The proportions are:—

PROPORTIONS PER 1,000 PERSONS OVER 15 YEARS.

Census			Sickness and Accident.	Specified Infirmitie.	Total Sickness and Infirmity.
1874	..	..	12.64	5.32	17.96
" 1878	..	..	11.16	5.70	16.86
" 1881	..	..	11.20	7.22	18.42
" 1886	..	..	12.61	7.82	20.43
" 1891	..	..	12.78	11.08	23.86
" 1896	..	..	14.28	11.41	25.69

SPECIFIED INFIRMITIES.

The total of these under the various heads amounted to 5,560 of both sexes and all ages. The males were 3,608, and the females 1,952, the proportions for every 10,000 persons being 78.89: for

In 1891 deaf-mutes were found to exist in the Australasian Colonies in the following proportions, with which is given the proportion for New Zealand in 1896 :—

DEAF-MUTEISM IN AUSTRALASIAN COLONIES, 1891.

South Australia	..	had 1 deaf-mute to every 1,369 persons.		
Queensland	..	"	2,557	"
Tasmania	..	"	2,716	"
New South Wales	..	"	2,867	"
Victoria	..	"	3,133	"
Western Australia	..	"	4,526	"
New Zealand (1896)	..	"	3,482	"

BLIND.

There were 211 males and 133 females, making a total of 344 persons returned as blind, including 43 who were given in the schedules as "nearly" or "partly" blind. Of the above total number, 37 were inmates of the Jubilee Institute for the Blind at Auckland. It would thus appear that only one out of every nine persons in the colony who suffered from blindness had been received into the institution. The number of blind persons in 1891 was 274. The proportions in every 10,000 of population show a continuous rise at successive censuses, and that there is more blindness amongst males than females.

PROPORTIONS OF BLIND TO EVERY 10,000 PEOPLE.

				Persons.	Males.	Females.
1874	..	.	..	2.34	2.45	2.18
1878	..	..	..	2.56	2.42	2.73
1881	..	..	..	2.82	2.93	2.68
1886	..	..	..	3.22	3.65	2.70
1891	..	..	..	4.37	4.91	3.74
1896	..	..	..	4.90	5.69	4.01

The proportion of the blind per 10,000 persons living is: for England, about 8.79; for Ireland, 11.30; for Scotland, 6.95; for Germany, 7.93; for France, 8.37; and for Italy, 7.63. For the Australian Colonies the figures are: Victoria, 8.72; New South Wales, 6.59; Australian Continent, 7.38.

The number of the blind in quinquennial periods of age is stated for each sex. Of 211 males, 73 were under and 138 upwards of 50 years old. Of 133 females, 62 were under 50, and 71 over that age.

NUMBERS OF THE BLIND AT AGE-PERIODS.

				Persons.	M.	F.				
				Persons.	M.	F.				
All ages	..	..	..	344	211	133	40 years to 45 years	7	3	4
							45	50		
							50	55		
							55	60		
							60	65		
							65	70		
							70	75		
							75	80		
							80 and upwards	23	13	10
Under 5 years	..	8	4	4						
5 years to 10 years	..	9	6	3						
10	"	15	"	14	8	6				
15	"	20	"	26	13	13				
20	"	25	"	12	8	4				
25	"	30	"	10	5	5				
30	"	35	"	14	8	6				
35	"	40	"	14	9	5				

Of the total number of the blind, 344 persons, there were 55 in regard to whom no occupation was stated; 56 (females) were returned as engaged in domestic duties, 68 persons as inmates of hospital, asylum, or blind institute, 21 as dependent relatives, 22 as of no occupation, 19 as farming, 12 of independent means, and the rest (91) of various occupations in small numbers each. A complete statement is added, in regard to which it must be remarked that many of the occupations are evidently the past occupations of persons whom blindness has prevented from continuing to work at their usual calling.

OCCUPATIONS (PAST OR PRESENT) OF THE BLIND.

	Persons.	M.		F.			Persons.	M.		F.	
		Under 20.	Over 20.	Under 20.	Over 20.			Under 20.	Over 20.	Under 20.	Over 20.
Barrister (not in practice) ..	1	..	1	..	..	Plasterer's labourer ..	1	..	1	..	..
Teacher of the blind ..	2	..	2	..	..	Labourer (unemployed) ..	8	..	8	..	..
School-teacher (retired) ..	1	..	1	..	..	Gardener ..	4	..	4	..	..
Teacher of music ..	2	..	2	..	..	Farmer ..	19	..	18	..	1
Boarding-house keeper ..	2	..	2	..	..	Relative assisting farmer ..	2	1	1	..	..
Assistant, hotel ..	1	..	1	..	..	Farm labourer ..	3	..	3	..	..
Capitalist ..	1	..	1	..	..	Dairy-farmer ..	1	..	1	..	..
Landowner ..	1	..	..	..	1	Sheep-farmer ..	1	..	1	..	..
Stationer's traveller ..	1	..	1	..	..	Fisherman ..	1	..	1	..	..
Dairyman ..	2	..	2	..	..	Bushman ..	1	..	1	..	..
Grain merchant ..	1	..	1	..	..	Miner, quartz ..	1	..	1	..	..
Fruiterer ..	1	..	1	..	..	Miner, alluvial ..	1	..	1	..	..
Grocer ..	1	..	1	..	..	Miner, undefined ..	1	..	1	..	..
Ironmonger ..	2	..	2	..	..	Pensioner ..	2	..	2	..	..
Shopkeeper, store-keeper ..	4	..	3	..	1	Annuitant ..	1	..	1	..	..
Hawker ..	1	..	1	..	..	Independent means ..	12	..	9	..	3
Clerk ..	1	..	1	..	..	Settler ..	1	..	1	..	..
Mariner ..	1	..	1	..	..	No occupation ..	22	..	13	..	9
Lumper ..	2	..	2	..	..	Domestic duties ..	56	..	..	1	55
Message-boy ..	1	1	..	..	..	Govt. scholar ..	3	2	..	1	..
Basketmaker ..	4	..	4	..	..	Private school ..	2	..	..	1	1
Piano-tuner ..	2	..	2	..	..	Receiving tuition at home ..	2	2	..	..	..
Saddler ..	1	..	1	..	..	Dependent relatives ..	21	15	..	6	..
Tanner ..	1	..	1	..	..	Inmate of hospital ..	11	..	7	..	4
Bootmaker, shoe-maker ..	2	..	2	..	..	Inmate of benevolent asylum ..	16	..	13	..	3
Milliner, dress-maker ..	1	..	..	..	1	Inmate of lunatic asylum ..	4	..	3	..	1
Matmaker ..	1	..	1	..	..	Inmate of blind institute ..	37	9	14	9	5
Baker ..	2	..	2	..	..	In receipt of charitable aid ..	5	..	2	..	3
Cordial-maker ..	1	..	1	..	..	Occupation not stated ..	55	1	27	8	19
Soap-maker ..	1	..	1	..	..						
Road contractor ..	1	..	1	..	..						
Sawyer ..	1	..	1	..	..						
Carpenter ..	3	..	3	..	..						
							344	81	180	26	107

BLINDNESS IN AUSTRALASIAN COLONIES, 1891.

Tasmania	..	..	had 1 blind person to every 889 persons.
Western Australia	..	..	922 "
Victoria	..	..	1,146 "
South Australia	..	..	1,297 "
New South Wales	..	..	1,517 "
Queensland	..	..	1,978 "
New Zealand (1896)	..	..	2,045 "

Comparison with the results of previous censuses shows a continually increasing proportion of lunatics to the population in respect of either sex, and that there is considerably more lunacy among the men than women.

Census	Persons.	Males.	Females.
1874	19-93	23-28	15-48
" 1878	20-85	25-07	15-54
" 1881	22-86	27-30	17-43
" 1886	26-50	31-03	21-18
" 1891	27-82	31-28	23-02
" 1896	31-13	35-70	26-02

LUNATICS.—NUMBERS AT QUINQUENNIAL AGE-PERIODS.

Ages.				Persons.	M.	F.
All ages	..	..	..	2,198	1,330	868
Under 5 years	..	..	..	1	1	..
5 years to 10 years	..	..	..	3	..	3
10 "	15	..	..	12	4	8
15 "	20	"	..	42	24	18
20 "	25	"	..	76	51	25
25 "	30	"	..	144	83	61
30 "	35	"	..	184	109	75
35 "	40	"	..	251	140	111
40 "	45	"	..	271	167	104
45 "	50	"	..	263	152	111
50 "	55	"	..	303	189	114
55 "	60	"	..	255	156	99
60 "	65	"	..	180	117	63
65 "	70	"	..	115	82	33
70 "	75	"	..	46	23	18
75 "	80	"	..	27	14	13
80 years and upwards	..	..	..	14	7	7
Unspecified	..	..	..	11	6	5

The proportion of lunatics per 10,000 males living at the above age-periods was only 5·95 at 15–20 years, but had advanced to 62·21 at 35–40 years, to 109·46 at 55–60, and reached its maximum at the period 65–70, when the proportion was 126·96. In the case of females, the proportions rose to a maximum of 115·16 at 55–60.

In 1896 one person in every 320, exclusive of Maoris, in New Zealand was afflicted with lunacy. This proportion, though, less than that found to obtain in Victoria in 1891, is greater than the proportions at that time for the other Australasian Colonies.

LUNACY IN AUSTRALASIAN COLONIES, 1891.

Victoria	..	..	had 1 lunatic in every 302 persons.
New South Wales ..	..	..	359 "
South Australia ..	..	..	376 "
Tasmania	..	..	383 "
Western Australia ..	..	..	386 "
New Zealand (1896)	..	..	320 "

Stated in proportions to 10,000 persons living, the comparison for the Home Country and these colonies is:—

LUNACY (INCLUDING IDIOCY).

United Kingdom (1891) ..	..	..	35·52 per 10,000 persons.
England	..	..	32·58 "
Scotland	..	..	38·43 "
Ireland	..	..	45·04 "
Victoria	..	..	36·17 "
New South Wales ..	..	..	30·38 "
New Zealand (1896) ..	..	..	33·15 "
France	..	..	25·01 "
Sweden, Norway, and Denmark ..	..	..	20·59 "

IDIOCY.

The number of idiots of both sexes enumerated in the census was 144, against 128 in 1891; the proportion to 10,000 of population being 2·02 against 2·03 at the previous census. As with lunacy, the proportion of idiocy amongst the males (2·62 per 10,000) is far higher than amongst the females (1·36). In comparison with Australasian Colonies, excepting Western Australia, New Zealand has fewer idiots in proportion to the population than any of the other colonies.

IDIOCY IN THE AUSTRALASIAN COLONIES, 1891.

Tasmania	..	..	had 1 idiot in every 3,188 persons.
Victoria	..	..	3,212 "
South Australia ..	..	..	3,815 "
New South Wales ..	..	..	3,930 "
Western Australia ..	..	..	7,112 "
New Zealand (1896)	..	..	4,884 "

EPILEPSY.

The number of epileptics stated in the census was 320. However imperfect the return may be, any objection to giving information would probably be about the same in degree at one census as at another, so that comparisons may be useful. The proportions per 10,000 living were:—

EPILEPSY PER 10,000 LIVING.

					Males.	Females.
Census, 1891	..	..	..	..	4.09	3.27
" 1896	..	..	..	..	4.72	4.34

The numbers at successive census years increase as under, but it is very improbable that these in any way nearly represent the real facts :—

EPILEPTICS—NUMBERS AT SUCCESSIVE CENSUS YEARS.

					Persons.	Males.	Females.
Census, 1874	..	..	..	..	115	68	47
" 1878	..	..	..	..	164	101	63
" 1881	..	..	..	..	194	112	82
" 1886	..	..	..	..	221	130	91
" 1891	..	..	..	..	232	136	96
" 1896	..	..	..	..	320	176	144

Epilepsy, like lunacy and idiocy, is less frequently found amongst females than males.

PARALYSIS.

Persons set down as paralytic increased from 468 in 1891 to 548 in 1896. The proportions are :—

PARALYTIC PER 10,000 LIVING.

					Males.	Females.
Census, 1891	..	..	..	..	9.27	5.45
" 1896	..	..	..	..	9.30	6.06

The males again are represented as suffering most from this complaint.

CRIPPLED AND DEFORMED.

These numbered 1,225 persons, 959 males and 266 females. The numbers include persons who had lost a limb, and the comparison with the previous census shows a higher rate for 1896 than existed in 1891.

PROPORTIONS PER 10,000 LIVING OF CRIPPLED AND DEFORMED PERSONS.

					Persons.	Males.	Females.
Census, 1891	..	..	..	..	15.64	22.91	7.43
" 1896	..	..	..	..	17.42	25.84	8.02

SECTION III.—THE MAORIS: PROBABLE ORIGIN, AND PRESENT NUMBERS.

RESULT OF RESEARCHES AS TO ORIGIN.

THE following notes on this subject are supplied by Mr. S. Percy Smith, F.R.G.S. :—

In extension of the article under the head of "Maoris," given on page 4, *ante*, it may be stated that progress in the sciences of ethnology and philology has made some strides since those pages were first penned. Although an origin for the Maoris cannot be stated with certainty at present, it will serve a useful turn if some indication is given of the direction in which these researches, undertaken by several people, are tending. It is impossible in the brief space of a page or two to give the evidence on which the following is based; and, moreover, there are conflicts of detail which require further discussion, but the main outlines of the history of the Polynesians—of which race the Maori forms the most important section—can be given as a tentative theory.

It is obvious that the further back in point of time these researches are carried the more uncertain become the conclusions. But there is a point in the history of the race where their carefully treasured traditions become history. Comparison of the traditions preserved by various branches of the race all point to the West as their origin; and when we take up the direction thus indicated, and follow it out by the light shed on the subject by ethnology and philology, it will take us very far from the present home of the race.

It appears, then, from these indications, that the race once inhabited a mainland, which is believed to be India—inland India, the plains and foot-hills of the Himalaya, with their borders touching the sea on the Persian Gulf. Ages must have passed whilst the people dwelt in those parts; they became navigators, crossed the neighbouring seas, acquired many customs from some race of a Semitic origin, together with some words of their language. This neighbouring race was probably dwelling in Arabia and the shores of the Persian Gulf. But a time came when the Aryan race began to make its appearance in India, a race of superior mental calibre, and probably more numerous. Before this intruding race the ancient Polynesian gradually retreated; but not at once. There was a period when much intercourse took place between the two races, when they mutually borrowed words and customs, and probably intermarried. How long this intercourse lasted there is no means at present of saying; but, in the course of centuries, probably, the intrusive race gradually forced the Polynesians southwards and seaward, where they acquired increased powers of navigation and the knowledge of surrounding lands. Voyages were made far East, to Indonesia, where the Polynesians found in occupation a negrito race, which is connected with, if not the same as the Papuan.

Pressure from behind, as the Aryans increased in numbers, added to the knowledge of the east acquired by the Polynesians, now induced that people to remove in large numbers to Indonesia, where their superior physique and intelligence would soon render them the masters of the former inhabitants. The race as a whole, however, did not migrate, for there are strong reasons for thinking that some of the hill tribes of India represent those who remained. Along the shores of the many-isled Indonesia the people formed their homes; the very nature of this islet-dotted sea exciting their powers as navigators and rovers. It cannot yet be said how long the race remained in that part of the world, but it must have been counted by centuries. There is strong reason for thinking that their voyages extended far into the Pacific, and to the north. Tradition begins now to take its part in the history of the race, and it is probable that the

original names of Atea, Hawaiki-te-varinga, Vavau, Herangi, and many others must be looked for in these regions. But here comes in a difficulty in tracing these early names, due to the fact of the subsequent irruption of other races, who brought their own names with them, and applied them to those places already named by the Polynesians, which thus became lost, except where preserved in the traditions of the emigrants.

About the first and second centuries of the Christian era the Polynesians came into touch with another ethnic wave—the Malay race, from the west and north-west. Again were the same scenes enacted as in distant India. At first wars, then periods of peace, when an interchange of customs and language took place. After a time of considerable duration, the Polynesians again moved on, nearly always to the east. The pressure of the Malay race forced them onward. Expert navigators and daring sailors as they were, the unknown was to them an attraction rather than a deterrent. There is little doubt that their patriarchal form of government had existed from the most ancient times, and that they were organized in tribes, owing allegiance to their own Arikis or supreme chiefs. Thus some tribes, and those that felt the outward pressure most, started away from Indonesia independently of the others, carrying with them their tribal gods and tribal customs. It is probable that at this time, some one tribe or more, varying the route that they had hitherto taken, retraced their steps, and finally reached Madagascar, where their descendants, the Hovas, are still found. But this was not the general direction of the movement. The larger number proceeded to the *Hitinga* or sunrise. This was the first migration into the Pacific. Tracing them by their own histories, and by such lights as modern science throws on the darkness of the past, it appears probable that these early voyagers, coasting along Northern New Guinea, the Solomon, the New Hebrides, and Fiji Islands—lands already occupied by the Papuan and Melanesian races—finally reached Samoa, or Hawaiki, as all that group is still called by the eastern Polynesians, but under the form *Hawaiki-raro*, or Leeward Hawaiki, to distinguish it from *Hawaiki-runga*, or Windward Hawaiki, the Tahitian and neighbouring group. This first migration, no doubt, extended its voyages very far. The Monehune people of Tahiti, and of Hawaii, the first inhabitants of New Zealand (the same people as the Moriori of the Chatham Islands) and the first inhabitants of Marquesas perhaps formed part of it.

But the pressure of the Malay races became more and more pronounced as they increased in numbers, and shouldered those of the Polynesian race remaining in Indonesia. The traditions refer to this as a time of trouble and unrest. Many of the Polynesians left for new fields; others who remained were eventually, and to a considerable extent, forced to the mountains, where, it is believed, their remnant may be seen to this day in several of the islands of Indonesia. Those who came east followed the footsteps of their countrymen who had preceded them, until they reached the Fiji group. This later migration appears to have been composed of a more warlike and more capable people than the first—centuries of contact with the Malays had influenced them—for we can trace them all through their migrations as the conquerors, whether pitted against their own race or the Melanesian. In Fiji, they occupied the Lau, or eastern group, but held frequent communication with the other islands, to all of which they gave names, differing from those known to the Fijians of to-day. It is obvious they mixed in blood with the original Melanesians, and thus acquired that strain that may be recognised in some branches of the Polynesians to-day. Doubtless, the original Fijians, occupying as they did the most easterly outpost of Melanesia, were the most adventurous of that race, and the best navigators. It is probable for this reason, and for others now obscure, that the Polynesian, with his high idea of caste, and racial dislike of black people, condescended to mix with the Fijians, which there is reason for thinking he did not do, or only to a limited extent with other Melanesians, on the passage south past the Solomons, New Hebrides, &c.

During the occupation of Fiji, voyages were not infrequent to the neighbouring islands of Samoa and Tonga. This is apparent from both Samoan and Tongan histories. Here it is necessary to remark that a close study of the above traditions leads to the conclusion that when the Fijians are mentioned

therein, it is the Polynesian immigrants that formed the later migration into the Pacific that are referred to, not the native Fijians.

A time, however, came in the history of the race when great troubles arose in Fiji; there was much fighting and general unrest—much voyaging to and fro to the neighbouring groups and to more distant ones. Eventually a combination of forces took place between the Fijian Polynesians and the Tongans of Vavau and Haapai, and a descent was made on Samoa. This group was practically conquered, and the Samoans driven to the mountains, whilst the invaders occupied the coasts. This occupation of Samoa covered some generations; and during this time—which was, roughly, about from the tenth to the twelfth century—these capable, warlike, Fiji-Polynesians, warriors and sailors, spread far and wide over the Pacific. These are the people who formed the southern and later migration to the Hawaiian Islands referred to by Fernander, and who, on their arrival in that group, soon acquired the leading position, which they have held down to the present day. The same thing occurred in other groups. They occupied Tahiti and the neighbouring islands, the Paumotu group, the Marquesas, Rarotonga, and, after some time, turned their faces south-westward and settled in New Zealand, where they arrived in a fleet of canoes in about the year 1350. These are the people who are generally termed Maoris, and who, on their arrival and after settling down in the land, by their masterful ways, greater intelligence, force of character, and probably superior physique, eventually became the conquerors of the people belonging to the prior migration into the Pacific, whom they found in occupation of these Islands.

These people were daring voyagers, in comparison with whom the most noted European navigators of the middle ages were mere coasters. The Polynesian chronicles relate voyages extending from Fiji to Easter Island, from New Zealand to the Hawaii group, and even to the antarctic regions. They were never equalled as voyagers until the sixteenth century, which saw such an extension of nautical enterprise, originating in Europe.

PRESENT NUMBERS OF THE MAORIS.

The census of the Maori population—that is, full-blooded Maoris, with all half-castes living as members of a Native tribe—was taken under the supervision of the officers of the Justice Department in the latter part of February, 1896. The enumeration of the Natives cannot be effected for one particular night, as is done with Europeans, and the instruction given to Enumerators was that the work should be done in as short a period of time as possible, beginning in the third week of February, and leaving the remainder of that month, and the month of March, for the work of examining, correcting, and completing the returns.

The names of the Natives were given in the Sub-Enumerators' books, besides information as to sex, age, principal tribe, sub-tribe, or hapu to which belonging, and particulars as to extent of cultivations owned individually or communally, with live stock.

Enumerators for the Maori census were directed to report on the general state of health of the Natives, and any other matters of interest relating to them.

The Enumerators for the northernmost counties reported fairly good health among the Natives, but that a habit of camping in low swampy places during the gum-digging season was injurious. Digging for kauri-gum is their principal occupation throughout the country north of Auckland.

In the country over which the Maori "King," Mahutu, has influence, Sub-Enumerators experienced great difficulties, being told

that the "King" had already taken a census, and no other was required. The Maoris also seemed to connect the census with taxation, and objected to it on those grounds.

The Sub-Enumerators for Waikato, Kawhia, and Thames Counties reported very little sickness. In Counties Tauranga, Whakatane, Rotorua, and Taupo (East and West) no unusual sickness was found.

The Natives round Tauranga are stated to be more industrious than formerly, and taking to agricultural pursuits.

In the Counties of Cook and Waiapu the Maoris were stated to be in very good health, and, as a rule, comfortably off; most of the young and middle-aged were working at bush-felling, shearing, &c., and making good wages.

For Counties Wairoa and Hawke's Bay the accounts were not so good. In parts there had been fever of a typhoid character. Paucity of children and old people was observed by several Sub-Enumerators.

Around New Plymouth there had been no sickness. The same was reported for Hutt County.

In the Middle Island, where the Native population is only a little over two thousand people, the reports speak of satisfactory health, and, for parts in respect of which comment is made, of a sufficiently prosperous condition.

Although the above leads to the conclusion that the Maoris were fairly thriving at the time of the census, there is reference in some of the reports to epidemics sweeping away numbers of the people during the five years 1891-96; and the actual results of the census indicate either (1) a decrease of population, or (2) that at the enumeration of 1891 some Natives must have been counted more than once, and where names had not been given, the number returned was greater than the reality. The comparison of the figures is as under:—

MAORIS (INCLUDING HALF-CASTES LIVING AS MEMBERS OF MAORI TRIBES).

			Persons.	Males.	Females.
April, 1891	..	..	41,993	22,861	19,132
April, 1896	..	..	39,854	21,673	18,181

Apparent decrease in five years ..	2,139	1,188	951
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The numbers for the different counties cannot be compared for the two census years to much purpose, because of the movements of the Maoris during the quinquennium, but the Enumerator for Waikato distrusts the degree of decrease shown for his whole large district, though of the belief that there has been a decrease to a lesser extent. He considers that more Maoris are working for Europeans than formerly, and these are liable to be missed. Probably at next census the schedule left at the dwellings of Europeans should have a slip attached on which might be taken particulars relating to Maoris working on their farms, and not living in the kainga Maori.

In February, 1896, the numbers of Maoris on the principal islands of New Zealand was as shown hereunder:—

	Maoris.			Half-castes living as Members of Maori Tribes (included in the preceding Numbers).		
	Persons.	Males.	Females.	Persons.	Males.	Females.
North Island ..	37,102	20,343	16,759	2,477	1,395	1,082
Middle Island ..	2,207	1,166	1,041	895	485	410
Stewart Island ..	117	59	58	104	49	55
Chatham Islands—						
Maoris ..	179	94	85	27	15	12
Moriors ..	20	11	9	..	..	..
Maori wives living with European husbands ..	229	..	229	..	..	..
Totals ..	39,854	21,673	18,181	3,503	1,944	1,559

Besides the half-castes included in the above table, there were 2,259 half-castes (males, 1,123 ; females, 1,136) living with and enumerated as Europeans at the time of the census.

In these numbers will be noticed 20 of the old aborigines, termed Moriors, at the Chatham Islands, and 229 Maori wives of European husbands. These Native wives of Europeans numbered 251 at the census of 1891, and 40 Moriors were then enumerated.

HALF-CASTES.

The half-caste population consists of those who live as members of Maori tribes, and others living with and counted as Europeans in the census. Adding the numbers of the two kinds gives the following figures for three censuses :—

Census.	Half-castes living as Members of Maori Tribes.		Half-castes living as Europeans.	Total Half-caste Population.
	Persons.	Persons.	Persons.	Persons.
1881	2,254	1,958	4,212	
1891	2,681	2,184	4,865	
1896	3,503	2,259	5,762	

These numbers indicate an increasing population of half-castes, notwithstanding the apparent decrease of the Maori population, before alluded to as probably in part correct.

PROPORTIONS OF DIFFERENT AGE-GROUPS.

It has been stated that the decrease shown by the census of 1896 in the Maori population can scarcely be considered a certainty to the full degree exhibited. It remains to see if consideration of the proportions of the people under and over fifteen years tends to confirm the conclusion. The proportions are accordingly given for six successive census years :—

PROPORTIONS PER 100 PERSONS LIVING—MAORIS.					
Males.			Females.		
	Under 15 Years.	Over 15 Years.	Under 15 Years.	Over 15 Years.	
1896 ..	35.28	64.72	36.82	63.18	
1891 ..	33.22	66.78	35.22	64.78	
1886 ..	31.64	68.36	33.56	66.44	
1881 ..	33.65	66.35	34.64	65.36	
1878 ..	32.00	68.00	31.63	68.37	
1874 ..	35.16	64.84	36.39	63.61	

The figures here, taken over the full range of years, would seem to indicate almost unchanged conditions. The proportions per cent. under 15 years of the young people of either sex are somewhat different from those found in the European population—viz.: Males under 15, 34·81; over 15, 65·19; and females under 15, 38·01; and over 15 years, 61·99. But there is nothing to indicate decrease of numbers.

Dividing the whole Maori population into ten age-periods, the proportions per 100 living of each sex at these ages are next compared with those of the European population. The proportions for persons under 5 years for the two races are very nearly the same.

Ages.	New Zealand European Population, 1896.		Maori Population, 1896.	
	Males.	Females.	Males.	Females.
Under 5 years ..	11·45	12·42	10·88	11·86
5 and under 10 years ..	11·75	12·80	14·43	15·02
10 " 15 ..	11·61	12·79	9·73	9·59
15 " 20 ..	10·88	12·17	10·29	11·90
20 " 30 ..	17·49	19·13	17·94	18·80
30 " 40 ..	12·47	11·92	13·22	12·71
40 " 50 ..	9·93	8·32	10·28	9·19
50 " 60 ..	8·21	6·07	7·50	6·30
60 " 70 ..	4·86	3·25	3·82	3·08
70 and upwards ..	1·35	1·13	1·91	1·55
	100·00	100·00	100·00	100·00

DISTRIBUTION OF THE MAORI POPULATION.

The localization of the Maoris is shown by the numbers found to be living in the several counties, as under :—

Counties.	Persons.	Counties.	Persons.	Counties.	Persons.
Mongonui ..	1,616	Rotorua ..	1,047	Hutt ..	256
Whangaroa ..	656	Tauranga ..	1,099	Sounds ..	139
Hokianga ..	1,839	Whakatane ..	3,524	Marlborough ..	167
Bay of Islands ..	2,509	Waipapu ..	2,393	Kaikoura ..	77
Hobson ..	1,011	Cook ..	1,402	Collingwood ..	32
Whangarei ..	606	Clifton ..	368	Waimaea ..	98
Otamatea ..	264	Taranaki ..	1,069	Buller ..	26
Rodney ..	193	Stratford ..	226	Westland ..	82
Waitemata ..	260	Hawera ..	816	Ashley ..	165
Eden ..	177	Patea ..	280	Selwyn ..	62
Great Barrier Island ..	60	Waitotara ..	293	Akaroa ..	238
Waiheke Island ..	58	Wanganui ..	1,133	Levels ..	141
Manukau ..	676	Rangitikei ..	411	Waimate ..	74
Coromandel ..	638	Oroua ..	307	Waitaki ..	180
Thames ..	1,010	Manawatu ..	149	Waikouaiti ..	168
Ohinemuri ..	483	Horowhenua ..	886	Peninsula ..	71
Piako ..	291	Wairoa ..	1,766	Taieri ..	61
Waikato ..	324	Hawke's Bay ..	1,326	Clutha ..	24
Waipa ..	294	Waipawa ..	325	Bruce ..	20
Raglan ..	1,269	Patangata ..	170	Southland ..	121
Kawhia ..	1,444	Pahiatua ..	80	Wallace ..	261
West Taupo ..	961	Wairarapa North ..	319	Stewart Island ..	117
East Taupo ..	519	Wairarapa South ..	349	Chatham Islands ..	199

229 Maori wives of European husbands have not been included in these figures.

SECTION IV.—EDUCATION.

THE replies given by householders to the inquiry on the census schedules for 1896 showed that in every 100 persons living (excluding Chinese), 80·60 per cent. could read and write, 2·89 could read only, and 16·51 were unable to read. The proportion per cent. unable to read fell from 23·72 in 1878 to 21·19 in 1886, and further to 16·51 in 1896. Of those who could read only, the proportion diminished from 6·76 in 1878 till in 1896 it stood at 2·89 per cent.

The following shows the percentages at each census period :—

	Read and Write.			Read only.			Cannot read.		
	Persons.	M.	F.	Persons.	M.	F.	Persons.	M.	F.
1878 ..	69·52	72·11	66·33	6·76	5·91	7·80	23·72	21·98	25·87
1881 ..	71·32	73·31	68·94	5·63	5·01	6·39	23·05	21·68	24·67
1886 ..	74·01	75·40	72·41	4·80	4·36	5·31	21·19	20·24	22·28
1891 ..	77·27	77·97	76·48	3·97	3·74	4·24	18·76	18·29	19·28
1896 ..	80·60	81·06	80·09	2·89	2·71	3·08	16·51	16·23	16·83

Besides the improvement in the degree of education shown above, which is observed in respect of females as well as males, it will be noticed that whereas the difference in the percentage able to read and write is very considerably in favour of the male sex for the year 1878, the proportions approximate more closely at each successive census year, until in 1896 there are found to have been 80·09 per cent. of the female sex who could read and write, against 81·06 of males. Doubtless when the results of the next census are known, the education of the females, taking as a standard the knowledge of reading and writing, will be equal to that of the males. But with a system of free and compulsory education this would be expected in time, and the census results have no longer the degree of importance or interest they had years ago.

In considering the proportions of the population at different age-periods the improvement in education is even more clearly proved. It is found that in 1896, of persons at the age-period 10–15 years, 98·73 per cent. were able to read and write, while 0·65 per cent. could merely read, and 0·62 per cent. were unable to read. The proportion who could not read increased slowly with each succeeding quinquennial period of age until at 50–55 years it stood at 4·04 per cent. At 75–80 years the proportion was 7·05, and at 80 and upwards it advanced to 8·07. Similarly, the proportion of persons who could read only increased from 0·65 at 10–15 years to 3·66 at the period 50–55 years, and again to 9·74 at 80 and upwards. The better education of the people at the earlier ages is thus exhibited.

Further evidences of improved education will be found in the portion of this work relating to marriages, where it is shown that

the proportion of persons in every 1,000 married who signed by mark has fallen very greatly since 1881. The figures for the sexes in the year 1881 were 32·04 males and 57·94 females, against 6·19 males and 7·02 females in 1896.

SCHOOLS.

It has been found impossible to collect the full statistics relating to schooling for the year 1897 in time for this work, and the figures for the previous year are accordingly given.

The number of schools, teachers, and scholars, as in December 1896, is shown in the following summary :—

Description of Schools.	Number of Schools.	Teachers.	Scholars
EUROPEAN.			
Public (Government) schools (scholars other than Maoris and half-castes)	1,533	3,515	129,014
Public (Government) schools (half-castes living among Europeans)			
Colleges, grammar, and high schools (aided or endowed)	24	181	2,614
Private schools (excluding Maori scholars)	283	728	13,947
Industrial schools and orphanages	8	..	712
Native village schools, European children attending	..	..	403
Private Native boarding - schools, European children attending	..	..	26
School for deaf mutes	1	5	48
Jubilee Institute for Blind	1	4	30
Totals—Europeans	1,850	4,433	147,731
NATIVE.			
Native village schools supported by Government (excluding European children stated above) ..	74	136	2,459
Private Native boarding - schools (maintenance of scholars paid by Government)	4	11	73
Private Native boarding-schools (maintenance of scholars paid from endowments)			
Private Native day-schools	3	5	84
Public (Government) schools, Maoris attending	..	..	948
Public (Government) schools, half-castes living as Maoris attending	..	..	139
Private schools for Europeans, Maoris attending	..	..	32
Totals—Natives	81	152	3,852

Thus at the end of 1896 there were 1,931 schools of all classes at which members of the European and Maori races were being educated. This was an increase of 59 on the number in 1895. The public primary schools numbered 1,533 in 1896, against 1,464 in 1895. The number of aided or endowed colleges, grammar, and high schools was 24, the same as in the previous year. The number of private schools from which returns were received by the Registrar-General was 283, a decrease of 15. There were also 8 industrial

schools and orphanages, public and private, as well as a school for deaf-mutes subsidised by Government, and a school for the blind.

The number of schools established for the education of the Native or Maori race was 81, against 76 in 1895.

Education at the public schools is free (except that, at such as are also district high schools, fees are charged for the teaching of the higher branches) and purely secular. The attendance of all children between the ages of 7 and 13 is compulsory, except when special exemptions are granted, or a child is being otherwise sufficiently educated.

The subjects of instruction at the primary schools are required by the Education Act to be the following: Reading, writing, arithmetic, English grammar and composition, geography, history, elementary science and drawing, object-lessons, vocal music, and (in the case of girls) sewing and needlework, and the principles of domestic economy. Provision must also be made for the instruction in military drill of all boys in these schools.

Technical Education.

"The Manual and Technical Elementary Instruction Act, 1895," provides for the granting of subsidies to classes established for instruction in such branches of science and art as are encouraged by the Science and Art Department (South Kensington) and the City and Guilds of London Institute, and also to workshops connected with public schools; and the same Act allows part of the ordinary school-time to be given to elementary manual instruction. During 1896, subsidy was paid on classes in drawing and painting, clay-modelling, carpentry and other woodwork, upholstery, plumbers' work, painters' work, ironwork, mechanical engineering, mechanics, physics, chemistry, agricultural analysis, laundry work, dressmaking and millinery, cookery, mathematics and geometry, shorthand, and bookkeeping. In several of the high schools manual and technical instruction is given as part of the school course.

There are four fully-equipped Schools of Art, the classes in which during 1896 were attended by about 1,380 students.

In connection with the Canterbury College there is an endowed School of Engineering and Technical Science, the students in which work for the university degree of B.Sc. in Engineering. Eighty-seven students attended in 1896.

The Canterbury Agricultural College has an endowment of over 60,000 acres of land, and possesses extensive buildings, and an experimental farm of a very complete character. The students work for the university degree of B.Sc. in Agriculture. There were forty-three students in 1896.

There are two Government Schools of Mines located in districts in which mining is actively carried on, and the Otago University maintains a professorial chair of mining and metallurgy, to which the Government makes an annual grant of £500. The number of students in mining in 1896 was 229.

As stated, the Act makes it lawful for any Education Board to order that manual instruction be given in any public school under its control as if manual instruction had been included in the list of subjects prescribed in the Education Act.

The departmental report for 1897 states that—

In the Wellington District illustrated guides for courses of modelling in clay and cardboard have been issued to the teachers. Woodwork classes in connection with the public schools have been established, or are about to be established, at Devonport, Remuera, Mauriceville, Paraparaumu, Cross Creek, Wellington, Greymouth, Kumara, Milton, and Balclutha. The class for teachers in Christchurch, referred to in the Board's report, is in full operation; and a Saturday carpentry class, which is attended by both teachers and public-school pupils, has been established in Invercargill. At Cross Creek, where there is a railway workshop, the pupils learn ironwork as well as woodwork. There is a class for clay-modelling at the Wellington Technical School. Drawing is, of course, taught in all the public schools, throughout the standards, as part of the ordinary school course; 96.1 per cent. of the children in attendance receive instruction in this subject.

The department has had lithographed for the guidance and instruction of students a set of thirty-eight exercises in woodwork in use at the Wellington Technical School. It may be observed that the City and Guilds of London Institute provides an examination in woodwork for public-school teachers, which the department hopes will be made use of by the teachers that intend to qualify themselves for giving instruction in the subject.

Besides the classes for purely manual work, of which mention has been made, associations for the promotion of various branches of technical education are in existence in different parts of the colony, and there are indications of a considerable increase in the demands for capitation under the Manual and Technical Elementary Instruction Act. The classes on which capitation was paid during the year 1896 are the following:—

Auckland Technical Classes Association: Drawing, carpentry and joinery, staircasing and handrailing, wood-carving, plumbing, graining and marbling, mathematics, shorthand, cookery, dressmaking.

Mr. W. I. Robinson's Classes, Auckland: Mechanical engineering, machine construction, and drawing.

Wanganui Technical School: Drawing, shading from models and from the round, painting still life in oils.

Wellington Technical School: Clay-modelling, drawing, design, painting, mathematics, applied mechanics, carpentry, wood-carving, plumbing.

Class at Cross Creek, Wellington: Woodwork and ironwork.

Greymouth District High School: Carpentry.

Christchurch School of Domestic Instruction: Cookery, dressmaking, laundry work.

Messrs. Bickerton Brothers' Classes, Christchurch: Drawing, geometry, physics.

Dunedin Technical Classes Association: Book-keeping, shorthand, mechanical engineering and drawing, plumbing, carpentry, wood-carving, chemistry, physics, cookery, dress-making.

Milton District High School: Carpentry, agricultural analysis.

Balclutha Technical Classes: English, mechanical drawing, shorthand, carpentry, upholstery, chemistry, millinery, dressmaking.

Manual or technical work, or both, is also being carried on, or about to be carried on, in classes at Gisborne, Napier, Hastings, Masterton, Palmerston North, Westport, Christchurch (the School of Art, the Young Men's Christian Association, the Gordon Hall, and three schools of shorthand), Ashburton, Kaitangata, Gore, Waiverua South, Warepa, and Invercargill.

With the view of encouraging attendance at technical schools and classes, arrangements have been made with the Railway De-

partment by which teachers of classes registered with the Minister of Education may give certificates to their pupils which will enable them to obtain railway tickets at special rates.

A full statement of the classes held for manual and technical education, with particulars, is given in the following table:—

SUMMARY of STATEMENT of CLASSES held in 1896 for MANUAL and TECHNICAL INSTRUCTION.

Name of Board, Association, or Teacher.	Number of Classes.	Total Number of Hours Instruction in the Term.	Attendance of Students.		Capitation received from the Government for the Term.
			Roll Number.	Average Attendance.	
Technical School Association, Auckland ...	13	350	118	67.7	£ s. d. 14 10 3
Robinson, W. L., Auckland ...	6	176	85	60.2	11 4 6
Education Board—					
Devonport School, Auckland ...	1	48	19	11.4	2 16 10
Remuera School, Auckland ...	1	36	8	6.0	1 2 6
Gisborne Technical Instruction Society ...	2	42	19	18.7	5 0 1
Hardie and Manning, Misses, Napier ...	3	162	16	9.0	4 1 0
" Hastings ...	3	85	23	18.5	2 5 6
Education Board—					
Technical School, Wanganui ...	20	921	101	88.4	18 2 10
Palmerston Art Class, Wanganui ...	6	118	74	56.3	5 11 7
Mauriceville W. School, Wellington ...	1	20	20	16.0	3 3 4
Cross Creek School, Wellington ...	1	16	11	10.8	2 0 6
Technical School, Wellington ...	28	705	598	488.6	85 15 8
Technical School Association, Westport ...	2	50	9	6.4	1 6 1
Education Board (Greymouth District High School), Grey ...	1	37	27	20.8	3 17 10
Canterbury College (School of Art), Christch ...	47	1,229	531	417.2	51 18 1
Education Board (Normal School), Christchurch ...	10	209	208	171.0	21 7 6
Young Men's Christian Association, Christch ...	2	70	49	17.4	3 16 9
School of Domestic Instruction, Christchurch ...	11	220	135	102.7	12 16 9
Boys' Gordon Hall, Christchurch ...	1	12	16	11.7	0 14 7
Bickerton, C. E., Christchurch ...	3	70	79	49.8	6 9 6
Carr, Miss A. M., Christchurch ...	10	1,225	84	84.0	48 17 6
Gilby, C. H., Christchurch ...	2	332	29	17.8	21 15 0
Telford, J. M., Christchurch ...	1	64	11	6.8	2 11 3
Technical Classes Association, Ashburton ...	2	40	63	51.9	10 8 3
Education Board (School of Art), Dunedin ...	20	943	422	317.0	58 10 0
Technical Classes Association, Dunedin ...	18	376	420	369.0	47 18 7
" Kaitangata ...	6	110	56	39.8	8 16 9
Education Board—					
Tokomahiro District High School, Dunedin ...	2	34	40	34.3	5 6 3
Balclutha District High School, Dunedin ...	1	24	22	20.0	3 15 0
Technical Classes Association, Balclutha ...	6	105	78	65.5	9 18 3
" " Warepa ...	3	101	40	32.0	7 18 5
" " Waivera South ...	3	75	46	39.3	8 16 4
" " Invercargill ...	6	120	87	68.1	8 10 3
" " Tuarua ...	1	125	12	4.5	5 5 4
Totals ...	249	8,350	*3,560	*2,821.3	£506 8 9

* NOTE.—These numbers must not be taken to represent separate individuals: many students enter for two or more classes.

During the year examinations were held upon papers supplied by the Science and Art Department (South Kensington), and the City and Guilds of London Institute, and a number of works were sent home by candidates desirous of qualifying for the Art Class Teacher's and Art Master's certificates. There were 923 papers and 615 passes. The details are exhibited in the next table:—

LONDON TECHNICAL AND ART EXAMINATIONS, 1896.

Subjects of Examination.	Auckland.		Wanganui.		Wellington.		Dunedin.	
	Candi- dates.	Passes.	Candi- dates.	Passes.	Candi- dates.	Passes.	Candi- dates.	Passes.
SCIENCE AND ART DEPARTMENT.								
<i>Art.</i>								
Drawing in light and shade (ele- mentary) ...	1	1	8	7	42*	30	24	19
Drawing in light and shade (ad- vanced) ...	...	...	7	7	21	16	8	5
Perspective (elementary) ...	1	...	3	2	21†	13	8	4
Model drawing (elementary) ...	5	3	10	10	78‡	71‡	71	54
Model drawing (advanced) ...	...	...	5	5	31	27	17	17
Freehand drawing of ornament (elementary) ...	9	5	46	25	106§	58	86	59
Freehand drawing of ornament (advanced) ...	...	...	7	7	20	18	13	12
Geometrical drawing (art) ...	...	...	3	2	3	1	6	6
Design (elementary) ...	...	...	...	...	1	...	...	...
Design (advanced) ...	...	...	...	...	1	1	...	...
Painting from still life ...	...	...	...	...	6	1	8	5
Drawing from the antique ...	...	...	...	...	1	1	...	...
Painting ornament in mono- chrome ...	...	...	...	...	...	...	2	1
Principles of ornament (ele- mentary) ...	...	...	1	1	...	...	1	...
Architecture ...	...	...	...	...	...	...	8	6
Students' works ...	...	...	25	13	33	19	...	...
<i>Science.</i>								
Practical plane and solid geo- metry ...	8	...	...	...	17||	5	7	5
Mathematics, stages 1, 2, 3 ...	1	1	...	...	9	3	6	5
Magnetism and electricity ...	...	...	...	...	2	...	...	...
Machine construction and draw- ing ...	15	7	...	...	16	7	8	5
Building construction ...	9	1	...	...	14	7	6	6
Inorganic chemistry, including al- ternative elementary chemistry ...	...	...	...	...	...	...	4	...
Human physiology ...	...	...	...	...	1	1	...	...
Applied mechanics ...	...	...	...	...	3	2	1	1
Botany ...	...	...	...	...	1	...	...	...
CITY AND GUILDS INSTITUTE.								
Carpentry and joinery ...	...	...	...	...	1	1	3	3
Telegraphy and telephony ...	...	...	...	...	1	1	...	...
Brickwork and masonry ...	...	...	...	...	2	1	...	...
Mechanical engineering (Part I)	...	...	...	...	3	...	...	...
Mechanical engineering (Part II.)	...	...	...	...	3	2	...	...
Plumbing (written) ...	...	...	...	...	14	5	5	4
Plumbing (practical) ...	...	...	...	...	11	8	5	1
Totals ...	49	18	115	79	4	299‡	237	219

* Includes one candidate from Westport, who failed. † Includes two candidates—one from Masterton and one from Westport, both of whom failed. ‡ Includes one candidate from Westport. § Includes one candidate from Pahiataua, who failed. || Includes three candidates—one each from Pahiataua, Masterton, and Westport—two of whom failed, and one (Westport) obtained "fair," which does not count as a pass. ¶ Includes eight candidates from Pahiataua, Masterton, and Westport, one of whom passed.

The expenditure on technical education for the year 1896 was approximately as follows: Technical classes and examinations, £1,424; Schools of Art, £4,604; School of Engineering, £1,223; School of Agriculture, £9,374; Schools of Mines, £3,150: total, £19,775. Of this sum, £2,594 was paid by the Government; £7,483 was from endowments, or from funds derived indirectly from the Government; and £6,185 was from fees, sale of farm produce, &c.

The Aid to Public Works and Land Settlement Act Amendment Act, passed in 1897, provided for raising a sum of £25,000 for the purposes of building and equipment of technical schools.

Extracts from the reports of the Committee of Council of Education for the United Kingdom, 1895 and 1896, are quoted, as highly instructive, being explanatory of the aim and objects of technical education:—

1895.

Much attention has been given of late years to the need of giving right direction to the activity and intelligence of children, especially in the earlier stages of their school life. It is felt that one of the chief aims of education should be to train the scholar to acquire knowledge for himself by observation and experiment. This power, however, so far from being developed, is actually stunted and suppressed when the scholar is treated as the passive recipient of information. If the child does not really assimilate what he learns the natural activity of the mind is deadened, and he may leave school with healthy interests unawakened, and with the faculty of accurate and independent observation still untrained. The effects of such mechanical instruction may at the moment appear satisfactory, but are, in fact, superficial and transitory, and must therefore prove in the end disappointing, if not actually harmful. We have, therefore, done what is in our power to encourage a more living form of education by means of teaching designed to cultivate the habit of observation, and the further use of the various powers of expression. Deftness of hand, correctness of eye, power with the pencil and the brush, the study of actual objects at first hand, and the habit of using the faculty of intelligent observation, have, we are glad to think, all become in recent years a more important part of the educational aim of our elementary schools. Not so much because training of this kind prepares the scholar more readily to acquire in due time practical dexterity in his occupation or trade, but because it develops a many-sided interest in his school-work, and because it forms a valuable element in mental and moral discipline, and tends to the more harmonious development of the whole of a child's faculties, we have approved its introduction in various forms into the curriculum of elementary schools. Experience has already shown that this form of teaching, where wisely arranged, has been attended with success.

1896.

The movement for the introduction of manual training into all classes of schools as a corrective to an excess of book-work seems to be gaining strength in this as in other countries. It is felt that the exercise of hand and eye, as well as of the memory and the powers of verbal expression, is necessary to true education. It appears to be true that the process of growth in a child's mind is furthered by manual training, and that the latter promotes the attainment of power and accuracy in other studies. These considerations point to a closer correlation between manual training and the other subjects of school curriculum, the former being rightly regarded as an integral part of school training, and not as an optional or disconnected appendix to it. In this wider sense the training of hand and eye finds a place in the kindergarten as well as in schools for older scholars, but in the latter case it naturally takes other forms. Varied occupations in the former class of schools, and, in the latter, brushwork, clay modelling (with special reference to lessons in history and natural science), and cardboard work, have all been found useful in stimulating the activity and developing the inventive powers of the children. But in the case of the schools for older scholars there is some danger lest manual training should be advocated and introduced less for the purpose of cultivating the general powers of the child than from a mistaken desire to impart premature dexterity in some particular craft or home employment. It is happily the case that manual training, when wisely planned, does carry with it the incidental advantage of enabling the scholar to acquire useful skill which will increase the comfort and economy of home life. Yet it is not on this side of the matter, important as it is, but on the educational

value of the training that stress must be laid, if we are to escape the disappointment which followed on the excessive attention paid to narrow forms of manual instruction in the older schools of industry.

We are glad, therefore, to observe that increasing attention is being given in our public elementary schools to such subjects as cookery, housewifery, wood-work, and gardening. When properly arranged these lessons have great influence on the efficiency of the school. Many children who are backward in literary expression show a compensating aptitude for expression with their hands, and others are saved from the dangerous discouragement which sometimes forces them without desert into the dunce's place. Carpentry is a delight to most boys when they are old enough to use the necessary tools; and we have sanctioned during the past year an addition to our building rules with the object of securing that rooms for woodwork should be planned with the simplicity and economy suitable for workshops. The manual training of girls naturally takes the form of needlework, cookery, and laundry-work, and is therefore specially liable to the errors of treatment which convert what should be an educational discipline into a premature form of technical instruction. At the same time we observe with satisfaction that more thought is being given to the ways of teaching these subjects, and we are far from desiring to substitute unreal or fanciful forms of instruction for the more homely, but withal scientific, lessons which best arouse the interest of the children, because they are nearer to their personal experience of daily needs and to the actual circumstances of their home life. It is a grave blunder in a cookery lesson to ignore the humbler and more ordinary forms of food, or to provide stoves or appliances of a kind necessarily unknown in cottage life. Equally serious, on the other hand, is the mistake of giving merely rote instruction in subjects which admirably lend themselves to the teaching of the principles underlying wise action, and to the training of those powers of observation and judgment which are essential to the wise husbanding and economical employment of narrow means. We observe, however, from the general reports of the Directress of Needlework and of the Inspectress of Cookery, that much still needs to be done in order to raise the educational value of the instruction in cookery and needlework in many schools. In others, on the other hand, the teaching of cookery has been so efficient that the lessons have been found to produce a perceptible and satisfactory improvement in the homes of the working-classes.

Victoria College.

In December, 1897, an Act was passed by the General Assembly establishing, in commemoration of the sixtieth year of the reign of Her Majesty Queen Victoria, for the promotion of higher education, a college at Wellington, to be styled "The Victoria College," and to be in connection with the New Zealand University. It is governed by a Council of sixteen members. Three of these are appointed by the Governor in Council. Another three are elected by such members of the Legislative Council as are resident in any of the Wellington, Nelson, Westland, Marlborough, Hawke's Bay, and Taranaki Provincial Districts, and by such of the members of the House of Representatives as for the time being represent electoral districts in those provincial districts. A group of three is elected by such of the graduates of the New Zealand University as are for the time being on the books of the College (meanwhile by holders of university degrees in the districts named above), and another group of three elected by adult persons holding certificates under section 45 of "The Education Act, 1877," and resident in the above provincial districts. A further group of three members is elected by members of the Education Boards wholly or

partly in the above-named provincial districts, and one member elected by the Professorial Board of the College itself.

Provision is made for appropriation and endowment for the purpose of bringing higher education within reach of deserving scholars in the colony: six Queen's scholarships, tenable for five years, are to be offered for competition every year, each of an annual value of £20, to holders studying where their home is situated, and £40 if studying elsewhere.

Historical.—The Canterbury College.

Canterbury College was created by an Ordinance of the Provincial Council of Canterbury passed in the year 1873. Before that time a body called the Canterbury Collegiate Union had been in existence, which had given instruction in classics, mathematics, modern languages, and certain branches of science, and one of the objects for which the College was incorporated was the carrying on of the work which had been begun by the Collegiate Union. The Otago University had been created by a Provincial Ordinance of the Province of Otago of the year 1869, and in the year 1870 professors had been appointed and university teaching had been begun. The University Act of 1870 had also originated the University of New Zealand, conferring on it powers to grant degrees in arts, law, medicine, and music, but the University had no direct means of teaching. Negotiations between the Otago University and Canterbury College in 1873 led to the passing of "The New Zealand University Act, 1874," constituting that body an examining body solely, and to the affiliation to it of the Otago University and Canterbury College.

The government of Canterbury College was vested in a Board of Governors, consisting of twenty-three members, who were named in clause 4 of the Canterbury College Ordinance. They were appointed for life, and vacancies which occurred in the Board were at first filled up by the Board itself. It was provided, however, by clause 18 of the Ordinance that when the number of graduates of the University of New Zealand who were members of the College should reach thirty the graduates should fill up vacancies in the Board of Governors. Under this clause the graduates have filled up all the vacancies which have occurred since June, 1884.

The preamble of "The Canterbury College Ordinance, 1873," sets out the object for which the College was established—viz., for enabling all classes and denominations of Her Majesty's subjects resident in the Province of Canterbury and elsewhere in the Colony of New Zealand to pursue a regular and liberal course of education. With this object three professors were appointed in England in the year 1874, whose duties were to teach in Canterbury College the subjects of classics and English, mathematics, and natural philosophy, physics and chemistry. The professors appointed began their work in Christchurch in the year 1875, and the lecturers in modern languages, biology, and jurisprudence who had been working under the Collegiate Union became lecturers on the staff of the newly-established College. There were at first no College buildings; the lectures were held in two rooms belonging to the Public Library, and in a small hall at some distance, to which was attached the chemical laboratory. The Provincial Council, however, voted various amounts of money for the purchase of a site and the erection of buildings. These were begun in 1876, and that portion which includes the board-room, the offices, and the mathematical and the English lecture-room was opened in June, 1877; the iron building, in which are the chemical and physical laboratories and lecture-rooms, was finished about the same time. Shortly afterwards the set of lecture-rooms to the left of the main entrance was added, then the hall, then the classical lecture-room, then the wing in which is the School of Engineering. Finally, the building was erected which includes the biological laboratory and lecture-rooms, and the tower for the reception of the telescope which had been presented to the College by Mr. James Townsend. These buildings were opened for use in March, 1896.

In 1877 the staff of the College was strengthened by the appointment of Sir Julius von Haast as Professor of Palæontology and Geology. After his death these subjects were attached to the chair of biology, and this arrangement continued till 1893, when Captain Hutton, who had occupied this chair, resigned it to take the Curatorship of the Museum. Along with this latter office Captain Hutton accepted the lectureship in geology and palæontology. When this arrangement was made, the teaching of biology was provided for by the appointment of a lecturer, and the lectureship has since been made into a professorship. During the year 1879 the chair of classics and English was divided. Professor J. M. Brown, who up to that time had held the combined chair, elected to take the subject of English, to which was added history, and a new chair of classics was created. In the year 1890 arrangements were made for placing the teaching of modern languages on a more permanent basis, and eventually a professorship of French and German was created.

The School of Engineering and Technical Science was established on its present basis in 1890. Before that time certain evening lectures had been given on engineering subjects, but in that year a permanent lecturer (afterwards created professor) was appointed, and a complete course of work sketched out. Before long the University of New Zealand took the matter in hand, and arranged to give the degree of Bachelor of Science in Engineering to those students who completed a certain course, which includes both theoretical knowledge and practical work. Attached to the School of Engineering there is a properly-equipped engineering laboratory, containing, amongst other things, an experimental steam engine, and a machine of the latest pattern for testing the strength of materials.

The following institutions have come under the control of the Board of Governors or have been established by the Board on the dates specified: The Literary Institute was taken over on the 31st December, 1873, under the provisions of "The Canterbury Museum and Library Ordinance, 1870," and afterwards was known as the Public Library, an institution comprising a reference library, a circulating library, and reading-room. (The Canterbury Museum and Library Ordinance Amendment Ordinance was passed in 1873.)

The management of the Canterbury Museum was handed over to the Board in June, 1874. The Girls' High School was opened on the 13th September, 1877. The School of Agriculture was opened on the 19th July, 1880. The Boys' High School was opened on the 18th May, 1881. The School of Art was opened on the 1st March, 1882.

New Zealand University.

The New Zealand University is not a teaching body; undergraduates have hitherto for the most part kept their terms at one or other of the following affiliated institutions: the Auckland University College, the Canterbury College, and the University of Otago, each of which has a staff of professors and lecturers. On the 1st June, 1897, the number of graduates who had obtained direct degrees was 546. The number of undergraduates on the roll of the University at that date was 1,774 (exclusive of such as had not performed any academical act for a period of ten years), but only 862 were keeping terms, of whom 576 were males and 286 females. Seventy-nine of the males and 12 of the females were medical students. The numbers of students attending lectures at the affiliated institutions during the year 1896-97 were as follow: At the Auckland University College, 74 matriculated and 153 non-matriculated; at Canterbury College, 150 matriculated and 66 non-matriculated; at the Otago University, 206 matriculated

and 28 non-matriculated. The establishment of the Victoria College, before-mentioned, will afford further facilities for University students.

Private and Denominational Schools.

There were 283 private schools in the colony at the end of 1896, a decrease of 15 on the number in 1895: 28 were for boys, 53 for girls, and 202 for children of both sexes. The number of pupils attending therein was 13,947—namely, 5,845 boys and 8,102 girls, not counting Maoris, 16 boys and 16 girls. The number of European pupils at these schools was less than in 1895 by 712. Of the private schools, 115 were Roman Catholic, with an attendance of 9,590 pupils.

The following gives, for the past eleven years, the number of private schools and of Europeans attending them, the number of Roman Catholic schools and pupils being also shown separately:—

Year.	Number of Private Schools.	Pupils.			Included in Previous Numbers.	
		Boys.	Girls.	Totals.	Roman Catholic Schools.	Pupils at Roman Catholic Schools.
1886	288	5,216	7,257	12,473	83	7,991
1887	299	5,771	7,616	13,387	90	8,946
1888	299	5,874	7,979	13,853	96	9,346
1889	293	5,778	7,680	13,458	95	9,024
1890	298	5,759	7,867	13,626	108	9,474
1891	281	6,234	7,908	14,142	110	10,144
1892	274	6,321	8,135	14,456	105	10,111
1893	299	6,431	8,491	14,922	111	10,263
1894	302	6,117	8,510	14,627	117	9,953
1895	298	6,187	8,472	14,659	114	10,458
1896	283	5,845	8,102	13,947	115	9,590

The total number of children of European descent (including such half-castes as live among Europeans) known to be receiving education at school at the end of 1896 was 147,731; of these, 140,651 were from 5 to 15 years of age. The census showed also 6,352 children receiving tuition at home in 1896, against 8,178 in 1891. No doubt increased school accommodation in country places does away with the need for tutors and governesses to a certain extent.

Attendance at Sunday schools has been already commented on under the heading of "Religion" on page 109.

The distribution of the private schools in the various provincial districts of the colony is shown in the two following tables:—

PRIVATE SCHOOLS, 1896.—SUMMARY BY PROVINCIAL DISTRICTS.

Provincial Districts.	Number of Schools.			Number of Teachers.			Number of Scholars.			Daily Average Attendance.		
	Boys.			Girls.			Mixed.			Total.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Male.	Female.	Total.
Auckland ...	8	13	84	46	139	185	1,410	1,938	3,378	1,300	1,707	2,907
Taranaki ...	...	...	11	1	25	26	141	272	413	119	237	356
Hawke's Bay ...	3	4	7	9	30	39	372	433	805	325	377	702
Wellington ...	5	8	48	37	104	141	1,314	1,520	2,734	1,074	1,347	2,421
Marlborough ...	...	...	2	...	...	12	132	150	291	115	142	257
Nelson ...	2	4	10	7	28	35	308	448	756	273	385	658
Westland ...	1	...	8	3	19	22	256	276	532	203	241	444
Canterbury ...	5	15	38	17	58	75	1,198	1,716	2,914	1,058	1,490	2,548
Otago ...	3	6	27	9	94	103	814	1,310	2,124	719	1,165	1,884
Totals	28	53	202	129	509	728	5,845	8,103	13,947*	5,086	7,101	12,187

* Exclusive of 32 Maoris (16 boys, 16 girls).

NOTE.—Denominational schools, such as Roman Catholic and Anglican, are included in the above as private schools. Particulars for the Roman Catholic schools in December, 1896, are as under:—

SUMMARY OF ROMAN CATHOLIC SCHOOLS.

Provincial Districts.	Number of Schools.			Number of Teachers.			Number of Scholars.			Daily Average Attendance.		
	Boys.			Girls.			Mixed.			Total.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Male.	Female.	Total.
Auckland ...	5	6	33	11	67	78	764	1,247	2,011	508	1,057	1,665
Taranaki ...	...	...	4	...	12	12	85	170	255	70	147	217
Hawke's Bay ...	...	...	6	...	17	20	230	352	612	230	237	467
Wellington ...	3	3	15	21	44	65	1,785	976	1,785	791	880	1,581
Marlborough ...	1	1	3	...	7	7	129	130	259	112	116	228
Nelson ...	1	3	9	...	20	20	183	339	522	154	298	452
Westland ...	1	...	7	3	17	20	235	290	496	189	240	419
Canterbury ...	...	...	9	10	66	76	863	1,091	1,960	770	938	1,708
Otago ...	3	3	19	9	55	64	725	945	1,690	612	871	1,513
Totals	18	21	115	57	305	362	4,060	5,530	9,590	3,476	4,764	8,240

Schools for Natives.

The number of Native village schools at the end of 1896 either supported or subsidised by the Government was 74—five more than in 1895. In addition, there were four boarding-schools for Native children, the cost of whose maintenance was paid either by the Government or from endowments, and three private Native day-schools.

The number of Maori children attending schools at the end of 1896 was 3,852—namely, 2,192 males and 1,660 females. These included 265 half-castes at the Native village schools who were living as members of Maori tribes, and 138 at public European schools.

The numbers at the several schools in 1895 and 1896 were as follow:—

Schools.	Maori Children attending Schools.					
	Boys.		Girls.		Total of both Sexes.	
	1895.	1896.	1895.	1896.	1895.	1896.
At public European schools ..	551	667	359	419	910	1,086
At Native village schools ..	1,290	1,355	994	1,104	2,284	2,459
At subsidised or endowed boarding-schools ..	108	102	80	89	188	191
At private European or Native schools ..	49	68	71	48	120	116
Totals ..	1,998	2,192	1,504	1,660	3,502	3,852

There was thus, in 1896, an increase of 194 in the number of Maori boys, and an increase of 156 in the number of Maori girls attending school.

The number of head-masters at Native village schools at the end of the year 1896 was 62; of head-mistresses, 12; of assistants, 62; and of sewing-mistresses, 16. The salaries of head-teachers ranged from £87 to £232, and those of assistants and sewing-mistresses from £50 to such very small allowances as £5. The expenditure in 1896 was £18,602 13s., made up as follows: Teachers' salaries and allowances, £11,744 7s.; boarding-school allowances (including scholarships) and apprenticeship, £1,892 4s. 3d.; buildings, fencing, furniture, &c., £3,039 4s. 8d.; repairs and small works, £394 18s. 7d.; books and school requisites, £518 0s. 3d.; inspection (including travelling), £910 18s. 1d.; sundries, £73 0s. 2d.

Income and Expenditure of Education Boards.

The total income of the various Education Boards for the year 1896 was £434,786 15s. 6d. The grants by Government amounted to £393,659 2s. 4d., a decrease of £30,554 15s. 10d. on the grants in 1895. These grants consist of (a) a statutory allowance of

£3 15s. per child in daily average attendance, (b) a further capita-
tion allowance of 1s. 6d. for scholarships, and (c) a varying sum for
school-buildings. The income from reserves amounted to £37,196
6s. 7d.

The total expenditure in 1896 amounted to £476,025 3s. 6d.,
of which the sum of £395,831 16s. 4d. was laid out on the mainten-
ance of the schools, £12,032 13s. 2d. used to meet expenses of the
Boards, £13,037 4s. 7d. spent on inspection of schools and examina-
tion of pupil-teachers, £53,533 15s. 6d. on school-buildings, and
£1,589 13s. 11d. on miscellaneous services —

Industrial Schools.

The cost of the Government schools and the amount recovered
(from Charitable Aid Boards, from parents, from sale of farm pro-
duce, &c.) are shown hereunder :—

COST OF GOVERNMENT INDUSTRIAL SCHOOLS, 1896.

School.	Gross Cost of School.			Cost of Boarding out (Included in preceding Column).			Recoveries.			Net Cost.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Auckland	1,144	4	7	512	8	0	263	17	6	880	7	1
Burnham	6,864	12	6	2,535	19	10	2,316	15	5	4,547	17	1
Caversham	6,327	5	5	3,155	16	9	4,534	2	3	1,793	3	2
Totals	14,336	2	6	6,204	4	7	7,114	15	2	7,221	7	4
Salary and expenses of Visiting Officer				..	..	..	..	..	..	391	1	0
Contingencies	..	..	..	..	..	..	..	..	..	12	17	9
Total	..	..	..	..	..	..	..	..	..	7,625	6	1

The Government expenditure on the private industrial schools is
next shown. The net expenditure is £60 more than the corre-
sponding amount for the preceding year.

GOVERNMENT EXPENDITURE ON PRIVATE INDUSTRIAL SCHOOLS, 1896.

School.	Payments.			Recoveries.			Net Expenditure by Government.		
	£	s.	d.	£	s.	d.	£	s.	d.
St. Mary's, Ponsonby (Auckland)	554	13	0	41	10	0	513	3	0
St. Joseph's, Wellington	402	11	9	39	1	7	363	10	2
St. Mary's, Nelson	2,189	2	9	357	8	11	1,831	13	10
Totals	3,146	7	6	438	0		2,708	7	0

The total number of inmates of the two kinds of industrial
schools is given for the years 1895 and 1896, and the variations in
the numbers boarded out, in residence, or at service :—

INMATES OF INDUSTRIAL SCHOOLS, 1895 AND 1896.

	Boarded out.			In Residence.			At Service, &c.			Totals.			
	Dec., 1895.	Increase.	Decrease.	Dec., 1896.	Increase.	Decrease.	Dec., 1895.	Increase.	Decrease.	Dec., 1895.	Increase.	Decrease.	Dec., 1896.
Government Schools—													
Auckland	39	9	30	10	10	43	2	41	92	11			81
Burnham	164	12	176	107	210	269	26	243	540	16			524
Caversham	202	9	211	86	10	76	174	21	195	462	20		482
Private Schools—													
St. Mary's, Auckland	..	..	..	46	..	46	14	6	20	60	6	..	66
St. Joseph's, Welling- ton	4	..	4	64	2	66	8	2	10	76	4	..	80
St. Mary's, Nelson ..	7	..	7	247	6	253	61	5	66	315	11	..	326
Totals ..	416	21	428	560	812	556	569	34	28	575	1,545	41	271,559

The inmates discharged from industrial schools during the year 1896 numbered 189, and the new inmates 203, so that the increase in the number on the books is 14—from 1,545 to 1,559. In Government schools the number declined during the year from 1,094 to 1,087; in private schools it rose from 451 to 472. Out of 1,559 "inmates" there were 528 who, though subject to the control of the schools, were independent of them so far as maintenance is concerned, 94 being with their friends on probation for discharge, and 434 at service. The number of inmates dependent on the schools was therefore 1,031. The number dependent at the end of 1895 was 1,023.

The dependent inmates at the end of 1896 are accounted for as follows: Residing in the schools, 556 (191 in Government schools, 365 in private schools); boarded out, 428 (including 11 from private schools); with their friends, 94 (including 24 from private schools); in hospital, 5 (including 2 from private schools); in lunatic asylum, 3 (from private schools); in blind asylum, 1 (from Government school); in refuges or similar institutions, 30 (including 2 from private school); absent without leave, 8 (from Government schools).

It is worthy of particular notice that, although the inmates of the Government schools number 1,087, only 191 (less than 18 per cent.) were actually detained in the schools. Many of the inmates have never once been on the school premises. Innocent children, nominally "sent to Burnham" by Magistrates' warrant, are really sent temporarily to a boarding-house until a suitable foster-home is found for them, and their outfit prepared; and girls committed because they have begun to lead a flagrantly immoral life, or are in great danger of doing so, are at once sent to a suitable institution.

In the Government schools the policy is to board out all children of suitable age and character. The authorities of the private schools do not adopt the boarding-out system.

Deaf, Dumb, and Blind Institutions.

The children at the deaf-and-dumb institution at Sumner, near Christchurch, were 48 in December, 1896. The institution is under Government control. The expenditure for the year 1896 was £2,993 16s. 9d., made up as follows: Salaries of professional staff, £1,055 5s. 10d.; salaries and wages of domestic staff, £476 9s. 6d.; rent, £470; housekeeping, £715 8s. 11d.; travelling, £73 13s. 4d.; school material and appliances for technical instruction, £14 15s.; repairs, £69 8s. 10d.; sundries, £52 18s. 6d.; medicine, £26 2s. 2d.; drainage, £39 14s. 8d. Contributions received from parents amounted to £281 6s. 6d.: making the net cost £2,712 10s. 3d. The children are taught to speak with the mouth, and to read articulate speech by observing the movement of the lips. The census of 1896 showed a total number of 115 deaf-and-dumb persons under 20 years of age residing in the colony, so that more than one-third of the full number would appear to be living at the institution.

The blind pupils formerly sent to Melbourne or Sydney are now provided for in the Jubilee Institution for the Blind at Auckland. The number at the end of the year was 19. In cases where necessity has been shown, the Education Department pays at the rate of £25 a year for each pupil, recovering what is possible from parents. The payments amounted to £487 5s. 6d., of which sum £25 was paid for the annual railway-ticket of the travelling agent of the institute. Recoveries from parents amounted to £68 7s. The number of blind persons under 20 years of age returned at the census of 1896 as living in the colony was 57.

PUBLIC LIBRARIES, AND OTHER LITERARY AND SCIENTIFIC INSTITUTIONS.

Although the number of these institutions only increased from 298 to 304 between the years 1891 and 1896, according to the census returns, it will be found that the membership increased from 14,489 to 17,638, or at the rate of 21·73 per cent. There was also a large increase of books (23·83 per cent.), which numbered 330,770 in 1891, and 409,604, in 1896. In considering these facts it must be borne in mind that the population increased 12·24 per cent. in the quinquennium. The details for all provincial districts are given, which shows that Auckland and Otago had 75 institutes each, and Canterbury 73. In membership Otago stands highest, and Auckland second; but according to number of books Auckland takes first place, Canterbury next, and Otago third.

Provincial Districts.	Number of Institutions.	Number of Members.	Number of Books.
Auckland	75	3,741	106,577
Taranaki	6	378	7,700
Hawke's Bay	17	1,513	22,955
Wellington	21	3,029	49,712
Marlborough	5	234	7,783
Nelson	25	679	27,363
Westland	7	355	6,602
Canterbury	73	3,647	93,981
Otago	75	4,062	86,931
Totals, 1896	304	17,638	409,604
Totals, 1891	298	14,489	330,770
Totals, 1886	308	13,684	292,108
Totals, 1881	225	12,868	198,520
Totals, 1878	187	12,092	173,021

PLACES OF WORSHIP.

The total number of buildings returned as used for public worship in 1896 was 1,987, of which 1,431 were churches or chapels. These last increased by 234, or 19 per cent. on the number returned in 1891. The schoolhouses used for worship in 1896 and 1891 were 366 and 241 for the respective years; 190 dwelling-houses were used as churches or chapels at last census. Sitting accommodation was found for 334,509 persons in all buildings utilised for public worship; and the numbers attending services amounted in the aggregate to 209,731. These numbers show increase at the rate of 20·28 and 18·46 per cent. respectively since 1891, while the increase of population during the interval between the two censuses was at the rate of 12·24 per cent.

The number of buildings, in each provincial district of the colony, used for public worship in 1896 is shown in the next table:—

Provincial Districts.	Churches and Chapels.	School-houses used for Public Worship.	Dwellings or Public Buildings used for Public Worship.	Number of Persons.	
				For whom Accommodation.	Attending Services.
Auckland	329	98	61	78,104	45,270
Taranaki	62	5	16	13,173	7,978
Hawke's Bay	83	20	13	17,526	11,485
Wellington	209	22	26	49,320	31,973
Marlborough	28	1	2	4,809	3,361
Nelson	93	34	11	17,963	10,521
Westland	42	3	2	7,955	5,001
Canterbury	277	61	15	62,884	42,615
Otago	308	122	44	82,775	52,127
Totals, 1896	1,431	366	190	334,509	209,731
Totals, 1891	1,197	241	161	278,114	177,055

The following gives the buildings in use for purposes of public worship by the various denominations, as returned at the census of April, 1896. The number of persons belonging to each denomination in the colony has been previously stated under the head of "Religion" on page 107.

Denominations.	Churches and Chapels.	School-houses used for Public Worship.	Dwellings or Public Buildings used for Public Worship.	Number of Persons.	
				For whom Accommodation.	Attending Services.
Church of England ..	414	105	33	76,811	48,117
Roman Catholics ..	212	8	7	52,267	36,080
Catholic Apostolic Church ..	1	..	..	100	50
Presbyterians ..	301	152	45	75,881	48,751
Methodists—					
Wesleyan Methodists*	249	60	27	55,772	35,445
Independent Wesleyans ..	1	1	..	259	180
Primitive Methodists ..	45	9	4	9,325	5,436
Scandinavian Methodists ..	1	..	..	80	50
Other Denominations—					
Baptists ..	34	1	1	8,630	5,652
Congregational Independents ..	20	5	1	6,700	3,475
Lutherans ..	15	1	..	1,510	806
Society of Friends ..	1	..	..	60	25
Brethren ..	27	..	9	5,809	2,049
Christian Disciples ..	2	..	1	262	222
Church of Christ ..	15	1	5	4,765	2,738
Christadelphians ..	3	..	4	395	133
New Church (Swedish-borgian) ..	1	..	..	100	40
Seventh-day Adventists ..	5	..	..	700	254
Students of Truth ..	1	..	..	1,200	500
New and Latter House of Israel ..	1	..	..	50	13
Salvation Army ..	61	10	30	24,178	15,777
Undenominational ..	15	13	23	9,265	3,503
Hebrews ..	5	..	..	810	380
Confucians ..	1	..	..	80	50
Buildings open to more than one denomination (included in the above)	[15]	[22]	[9]	[3,855]	[2,062]
Totals, 1896 ..	1,431	366	190	334,509	209,731
Totals, 1891 ..	1,197	241	161	278,114	177,055

* Includes United Free Methodists and Bible Christians, which bodies amalgamated with the Wesleyan Methodist Church on 13th April, 1896.

SECTION V.—LAW AND CRIME.

CIVIL CASES.

SITTINGS of the Supreme Court are held for trial of civil cases at Auckland, Gisborne, New Plymouth, Napier, Wellington, and Wanganui, in the North Island; and at Blenheim, Nelson, Hokitika, Christchurch, Timaru, Oamaru, Dunedin, and Invercargill, in the Middle Island.

The number of writs of summons issued in the Supreme Court in 1896 was 529, against 511 in 1895, 664 in 1894, and 741 in 1893. The number of civil cases tried increased from 129 in 1895 to 153 in 1896. Of these, 23 were tried before common juries, 24 by special jury, and 106 by Judge without jury. The total of amounts for which judgments were recorded in 1896 was £54,895. There were 62 writs of execution issued during the year.

Seventy-five cases were commenced at fourteen District Courts in 1896. Eleven of these cases were tried before juries, and 39 before a Judge only, making a total of 50 cases tried. Fifteen cases lapsed or were discontinued (in one case the Court had no jurisdiction), and three remained pending. The total of amounts sued for was £15,021, and judgments were recorded for £3,853. Before the Magistrates' Courts 19,708 cases were tried, against 25,201 in 1895; the aggregate sum sued for being £298,753, and the total for which judgment was given £171,344.

COURT OF APPEAL.

Three Crown (criminal) cases were reserved from the superior Courts and brought before the Court of Appeal in 1896. In two cases the convictions were affirmed, and in one a new trial was ordered. There were appeals from 13 civil cases, of which 3 were allowed and 10 dismissed. Judgments were given on 7 other cases removed to the Court of Appeal.

BANKRUPTCY.

The petitions in bankruptcy during 1896 numbered 412, of which 375 were made by debtors and 37 by creditors. This number is 73 fewer than the petitions for the preceding year.

Of the bankruptcies in 1896: in 8 cases the liabilities were under £50; in 93, from £50 to £100; in 128, from £100 to £250; in 96, from £250 to £500; in 38, from £500 to £1,000; in 15, from £1,000 to £2,000; in 12, from £2,000 to £5,000; and in 5, £5,000 and upwards.

The following gives the number of petitions, the total amount of the unsecured assets, the amount of debts proved, and the

amount paid in dividends and preferential claims for the past ten years :—

Year.	No. of Petitions in Bank- ruptcy.	Debtors' Statements of Assets, excluding Amounts secured to Creditors.	Amounts realised by Official Assignees.	Amount of Debts proved.	Amounts paid in Dividends and Preferen- tial Claims.
		£	£	£	£
1887 ..	1,036	311,745	135,633	503,759	109,255
1888 ..	881	252,322	98,213	571,741	79,843
1889 ..	724	441,874	187,048	755,165	95,032
1890 ..	652	262,733	112,951	381,124	122,276
1891 ..	605	141,970	84,341	302,712	72,571
1892 ..	507	122,049	66,497	238,953	43,661
1893 ..	484	111,483	68,843	464,273	37,721
1894 ..	626	187,785	85,538	310,077	70,898
1895 ..	485	133,603	88,684	239,562	70,018
1896 ..	412	115,455	71,712	256,870	37,492

A special article on the present bankruptcy law of New Zealand was printed in the Year-book of 1894. Reference is made in it to a mode of private assignment which has come into such frequent use as to prevent conclusions being drawn from a comparison of the figures above given.

DIVORCE.

Under "The Divorce and Matrimonial Causes Act, 1867," petitions for divorce may, in New Zealand, be granted on any one of the following grounds:—

Husband *v.* wife : Adultery since marriage.

Wife *v.* husband : Incestuous adultery, or bigamy with adultery, or rape, &c., or adultery coupled with such cruelty as without adultery would have entitled the wife to a decree for a divorce *a mensâ et thoro* under English law, or adultery coupled with desertion without reasonable excuse for two years or upwards.

When a decision has been given, either by the Supreme Court or a Judge thereof, either party may appeal within three months from the pronouncing of such decision.

When the time limited for appealing has expired and no appeal has been presented, or when the appeal has been dismissed, or when in the result of an appeal marriage is declared to be dissolved, but not sooner, the respective parties thereto may marry again as if the prior marriage had been dissolved by death.

A decree for a judicial separation may be obtained either by the husband or wife on the ground of adultery, or of cruelty, or of desertion without cause for a period of two years.

The petitions in 1896 under "The Divorce and Matrimonial Causes Act, 1867," were 61 in number—25 more than in 1895: 55 were for dissolution of marriage, and 6 for judicial separation; 36 decrees for dissolution of marriage were granted. The proceedings under the Act for the past ten years were as follows :—

Year.	Petitions for		Decrees for	
	Dissolution of Marriage.	Judicial Separation.	Dissolution of Marriage.	Judicial Separation.
1887	26	6	16	1
1888	35	3	32	..
1889	26	7	17	1
1890	24	8	21	3
1891	31	5	20	3
1892	30	8	18	1
1893	34	9	25	1
1894	26	3	20	4
1895	30	6	18	5
1896	55	6	36	2

The petitions for dissolution of marriage amounted on the average for the ten years to 7.99 in every 1,000 marriages, and the decrees for dissolution to 5.62.

The proportion of petitions and decrees for dissolution of marriage to the number of marriages is higher in New Zealand than in England and Wales, but lower than in New South Wales or Victoria. The proportion in every 1,000 marriages for these countries is as follows:—

Country.	Petitions for Dissolution of Marriage.	Decrees for Dissolution of Marriage.
New Zealand (average for ten years, 1887-96)	7.99	5.62
England and Wales	1.88	0.95
New South Wales (average for five years, 1892-96)	39.86	27.07
Victoria (average for five years, 1891-95) ..	19.20	11.69

In 1889 an Act was passed in Victoria to allow of divorces being granted for wilful desertion, habitual drunkenness with cruelty or neglect, imprisonment under certain circumstances of either party, and adultery on the part of the husband. This multiplication of the causes for divorce has largely increased the proportion of decrees in that colony.

An Act of a similar tenor was passed in New South Wales in 1891, and brought into working in August of the following year, under which, in addition to adultery since marriage on the part of the wife, and adultery and cruelty on the part of the husband, petitions for divorce can now be granted in that colony on any of the following grounds:—

Husband v. wife. Desertion for not less than three years; habitual drunkenness for a similar period; being imprisoned under a sentence of three years or upwards; attempt to murder or inflict grievous bodily harm, or repeated assaults on him within one year previously.

Wife *v.* husband: Adultery, provided that at the time of the institution of the suit the husband is domiciled in New South Wales; desertion for not less than three years; habitual drunkenness for the same period; being imprisoned for three years or upwards, or having within five years undergone various sentences amounting in all to not less than three years; attempt to murder, or assault with intent to inflict grievous bodily harm, or repeated assaults within one year previously.

To entitle either party to seek relief on these grounds, he or she must have been domiciled in the colony at the time of instituting the suit for three years or upwards, and should not have resorted to the colony for the purpose of the suit. When a wife seeks for a decree on the ground of three years' desertion, if she was domiciled in New South Wales when the desertion commenced, she shall not be deemed to have lost her domicile by reason of her husband having thereafter acquired a foreign domicile.

The result has been that the number of decrees (*nisi*) of divorce made absolute increased from 69 in the year 1891 to 312 in 1894, falling to 250 in 1895 and 131 in 1896.

CRIMINAL CASES.

In respect of criminal statistics New Zealand compares favourably with the colonies of Australia, as will be seen on reference to the following figures, taken from the Victorian Year-book for 1894:—

1892.	Proportion per 1,000 of Population of		Proportion per 10,000 of Population of	
	Apprehensions and Summonses.*	Summary Convictions.	Commitments.	Convictions after Commitment.
Queensland	42.17	32.74	10.82	4.88
New South Wales ..	65.82	47.77	11.95	7.59
Victoria	48.72	33.26	9.82	6.53
South Australia ..	23.79	20.17	5.74	2.72
Western Australia ..	99.57	63.90	16.61	10.36
Tasmania	41.07	31.54	7.00	2.81
New Zealand (exclu- sive of Maoris)	27.39	20.69	5.40	2.80

* Not including civil cases.

Judging by the number of summary convictions in 1892, the amount of crime in New Zealand appears to have been at that time proportionately less than in any one of the Australian Colonies excepting South Australia. The ratio of convictions after commitment was somewhat higher than in South Australia, but lower than in any other colony.

Charges before Magistrates.

The number of charges heard before the Magistrates' Courts in 1896 was 19,276. Repeated charges against the same person are

counted as distinct. In 1895 the number was 18,028; in 1894, 17,805; in 1893, 18,271; in 1892, 18,017; in 1891, 17,613; in 1890, 18,701; in 1889, 18,845; and in 1888, 19,167. Of the charges in 1896, 461 were against persons of the aboriginal native race, an increase of 14 on the number for the previous year.

If the Maoris be excluded, the number of charges in 1896 is found to have been 18,815, an increase of 1,234 upon the number for 1895; and the proportion per 1,000 of population was 26·35, against 25·39 in 1895.

The figures, both numerical and proportional, for a series of fifteen years are subjoined:—

CHARGES BEFORE MAGISTRATES.

Year.	Number.	Proportion per 1,000 of Population.	Year.	Number.	Proportion per 1,000 of Population
1882	22,108	43·41	1890	18,247	29·39
1883	22,511	42·52	1891	17,189	27·29
1884	23,105	41·81	1892	17,587	27·38
1885	22,709	39·61	1893	17,932	27·12
1886	21,227	36·46	1894	17,353	25·55
1887	19,924	33·41	1895	17,581	25·39
1888	18,829	30·82	1896	18,815	26·35
1889	18,476	30·10			

The general results shown in the next table are borne out in a most satisfactory manner by the statistics relating to prisoners in gaol (see *post*), which also show a marked decrease in crime during the last fifteen years.

Summary Convictions, and Convictions in Superior Courts.

The summary convictions in 1896 numbered 14,481, including 332 Maoris. 546 persons, 17 of whom were Maoris, were committed for trial at the Supreme and District Courts, a decrease of 101 on the number committed in 1895.

"The Justices of the Peace Act, 1882," provides that sundry indictable offences may with the consent of the accused be summarily dealt with by Magistrates. The increasing use of this provision may have affected the number of convictions in the higher Courts shown in the nine-year table on next page.

Including 19 Maoris, the convictions in the superior Courts numbered 310 (persons).

A comparison of the number of persons in New Zealand summarily convicted during nine years, ending with 1896, shows a decrease in the proportion of these convictions per 1,000 of the population, not only on the total but also in regard to offences against the person, against property, and other offences taken separately. Dealing with the convictions in the superior Courts for offences against the person and property, taken together, the number and proportion per 1,000 of population are both less in 1896 than in 1895, but higher than in any of the preceding years. In regard to "other offences," both number and proportion in 1896 are by far the lowest shown for any of the nine years under review. The figures given exclude the Maoris:—

Years.	SUMMARY CONVICTIONS.		CONVICTIONS IN SUPERIOR COURTS.	
	Number.	Proportion per 1,000 of Mean Population.	Number.	Proportion per 1,000 of Mean Population.
1888—				
Offences against the person	715	1·18	42	0·07
Offences against property ..	1,246	2·06	178	0·29
Other offences ..	12,298	20·31	35	0·06
Totals ..	14,259	23·55	255	0·42
1889—				
Offences against the person	716	1·17	30	0·05
Offences against property ..	1,377	2·24	152	0·25
Other offences ..	11,768	19·16	43	0·07
Totals ..	13,861	22·57	225	0·37
1890—				
Offences against the person	794	1·28	18	0·03
Offences against property ..	1,273	2·05	138	0·22
Other offences ..	11,818	19·04	36	0·06
Totals ..	13,885	22·37	192	0·31
1891—				
Offences against the person	751	1·19	31	0·05
Offences against property ..	1,312	2·08	141	0·23
Other offences ..	10,988	17·45	42	0·07
Totals ..	13,051	20·72	214	0·35
1892—				
Offences against the person	771	1·20	29	0·05
Offences against property ..	1,294	2·01	127	0·20
Other offences ..	11,225	17·48	24	0·04
Totals ..	13,290	20·69	180	0·29
1893—				
Offences against the person	760	1·15	48	0·07
Offences against property ..	1,361	2·06	174	0·26
Other offences ..	11,336	17·14	38	0·06
Totals ..	13,457	20·35	260	0·39
1894—				
Offences against the person	724	1·07	36	0·05
Offences against property ..	1,284	1·89	199	0·29
Other offences ..	10,605	15·61	65	0·10
Totals ..	12,613	18·57	300	0·44
1895—				
Offences against the person	673	0·97	56	0·08
Offences against property ..	1,383	2·00	255	0·37
Other offences ..	11,011	15·90	33	0·05
Totals ..	13,067	18·87	344	0·50
1896—				
Offences against the person	658	0·93	36	0·05
Offences against property ..	1,256	1·78	242	0·34
Other offences ..	12,235	17·31	13	0·02
Totals ..	14,149	20·02	291	0·41

The number of summary convictions in the various Magistrates' Courts for certain of the most common offences in each of the past

eight years, together with the proportion per 1,000 of the mean population (excluding Maoris) is given herewith :—

SUMMARY CONVICTIONS.

	Numbers.							
	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.
Assaults ..	636	705	675	656	670	647	581	651
Theft* ..	1,085	905	934	904	978	921	1,034	952
Drunkenness	5,152	5,677	5,118	5,055	5,048	4,493	4,568	4,822
Proportions per 1,000 of the Population.								
Assaults ..	1889. 1.04	1890. 1.14	1891. 1.07	1892. 1.02	1893. 1.01	1894. 0.95	1895. 0.84	1896. 0.92
Theft* ..	1.77	1.45	1.48	1.41	1.48	1.36	1.49	1.35
Drunkenness	8.39	9.14	8.13	7.87	7.63	6.62	6.60	6.82

The proportion of assaults for 1896 is found to be rather higher than for 1895. In the year 1887 it was as high as 1.23 per 1,000. During the years 1890–96 the proportion for theft remained almost without change. The record of drunkenness, except for a slight rise in 1896, shows a falling rate for the same six years. It would seem that the rate given for 1889 is incorrect, it having been worked upon an estimate of population which the census of 1891 proved to have been exaggerated. Could the true figures be ascertained they might possibly show a steady decline throughout the period under review. The range for ten years is from 9.01 per 1,000 persons in 1887 to 6.60 in 1895, and 6.82 in 1896.

Drunkenness.

To judge by the consumption of beer, wine, and spirits in the period 1884–1896, there has been a very considerable falling-off during the last thirteen years in the use of alcoholic liquors in this colony. Exclusive of Maoris, the beer consumed was 8.769 gallons per head in 1884, against 7.873 in 1896. Wine in 1884 was 0.272 gallons per head, against 0.141 in 1896; and spirits fell from 0.999 gallons to 0.639 in the same period. The figures, including and excluding Maoris, are given for each of the last thirteen years.

CONSUMPTION OF BEER, WINE, AND SPIRITS PER HEAD OF POPULATION
(INCLUDING AND EXCLUDING MAORIS).

	Including Maoris.			Excluding Maoris.		
	Beer. Gal.	Wine. Gal.	Spirits. Gal.	Beer. Gal.	Wine. Gal.	Spirits. Gal.
1884.. ..	8.121	0.253	0.923	8.769	0.272	0.999
1885.. ..	7.840	0.243	0.825	8.414	0.261	0.899
1886.. ..	7.333	0.198	0.765	7.861	0.212	0.820
1887.. ..	7.148	0.185	0.719	7.651	0.198	0.770
1888.. ..	6.670	0.156	0.767	7.133	0.167	0.820
1889.. ..	7.136	0.165	0.560	7.624	0.176	0.598
1890.. ..	7.402	0.172	0.649	7.899	0.184	0.693
1891.. ..	7.168	0.161	0.655	7.646	0.172	0.699
1892.. ..	7.328	0.163	0.664	7.807	0.174	0.708
1893.. ..	7.255	0.159	0.656	7.716	0.170	0.697
1894.. ..	6.961	0.136	0.611	7.391	0.144	0.648
1895.. ..	6.996	0.127	0.593	7.421	0.135	0.629
1896.. ..	7.453	0.133	0.605	7.873	0.141	0.639

Including embezzlement, receiving, and false pretences.

The actual quantities of beer, wine, and spirits used in the colony range from 4,576,291 gallons of beer in 1886 to 5,565,040 gallons in 1896. Wine shows a decrease from 123,376 gallons in 1886 to 99,473 gallons in 1896; and spirits a decrease from 477,352 gallons in 1886 to 451,679 gallons in 1896. The mean population increased during the eleven years from 582,117 to 706,846 persons, or at the rate of 21·43 per cent.

At the same time a comparison of the convictions for drunkenness shows that excessive drinking was not so prevalent in 1896 as it was eleven years previously. And among the New-Zealand-born population of European descent there is evidence of less drunkenness than among persons who have come to the colony from abroad. At the census of 1896, out of the total population of New Zealand over 15 years of age, not less than 43·71 per cent. were found to have been born here; while the proportion of the convictions for drunkenness of New-Zealand-born Europeans to the total convictions was in that year less than 15 per cent.

The prison statistics show for several years back the number of distinct prisoners received into gaol after being convicted of drunkenness. The figures for the years 1885-96 are as follow (readmissions of the same person not counted):—

DISTINCT PRISONERS CONVICTED OF DRUNKENNESS RECEIVED INTO GAOL.

Year.	Number.	Year.	Number.
1885	1,200	1891	694
1886	1,077	1892	638
1887	1,038	1893	619
1888	938	1894	457
1889	802	1895	469
1890	808	1896	515

Here the decrease proceeds rapidly and almost uniformly from year to year. It is true that the option of a fine is generally given to a person convicted of drunkenness, but there is nothing to show that the proportion of fines for this offence has increased of late, so that a fall in the number of distinct persons imprisoned may fairly be accepted as evidence of growing sobriety among the people.

In New South Wales and Victoria the consumption per head of alcoholic liquors is much greater than it is here. The figures are,—

	Beer. Gal.	Wine. Gal.	Spirits. Gal.
Victoria	19·36	1·01	1·12
New South Wales	10·91	0·86	1·00

In each of these colonies, as also in Queensland and South Australia, arrests for drunkenness are, in proportion to population, far more numerous than in New Zealand. The order of the colonies in this respect is as under:—

ARRESTS, ETC., FOR DRUNKENNESS IN PROPORTION TO POPULATION.

New South Wales	..	..	..	17.50 per 1,000
Victoria	..	..	..	13.67 "
Queensland	..	..	..	11.82 "
New Zealand	..	..	..	8.16 "
South Australia	..	..	..	8.15 "
Tasmania	..	..	..	6.92 "

Crime amongst Maoris.

The Native population of the colony may be regarded as stationary, and a comparison of the numbers of summary convictions by the higher and lower Courts for the last thirteen years seems to lead to the conclusion that crime amongst the Maoris is not increasing. The figures, especially those relating to the convictions by the superior Courts, though small and fluctuating, are considered sufficient to justify this inference:—

SUMMARY CONVICTIONS OF MAORIS.

Year.	Number.	Year.	Number.
1884	.. 296	1891	.. 298
1885	.. 238	1892	.. 293
1886	.. 277	1893	.. 253
1887	.. 279	1894	.. 321
1888	.. 213	1895	.. 316
1889	.. 221	1896	.. 332
1890	.. 243		

CONVICTIONS OF MAORIS IN SUPERIOR COURTS.

Year.	Convictions.	Number of Persons convicted
1884	.. 27	.. 22
1885	.. 15	.. 13
1886	.. 22	.. 27
1887	.. 11	.. 13
1888	.. 10	.. 10
1889	.. 10	.. 10
1890	.. 31	.. 35
1891	.. 7	.. 7
1892	.. 16	.. 15
1893	.. 13	.. 12
1894	.. 25	.. 24
1895	.. 17	.. 15
1896	.. 19	.. 19

Prisoners in Gaol.

The total number of prisoners received in the different gaols of the colony during the year 1896 was 3,392, including persons awaiting trial but not convicted within the year, and counting as distinct persons repeated admissions of the same person, as well as transfers from gaol to gaol of convicts undergoing sentence. In 1895 the number received was 3,489, so that the figures for 1896 show a decrease of 97. Of 3,392 admissions for 1896, 59 were for debt, and 77 on account of lunacy; while 160 were Maoris imprisoned for various offences. If the debtors, lunatics, and Maoris be excluded, the

number of persons received into gaol is reduced to 3,096, against 3,239 in 1895, a decrease of 143. In 1881, when the mean population was only 493,482 persons, the corresponding number of admissions was 4,207.

The number of persons in gaol (including Maoris) at the end of each of sixteen years is next given, with the proportion per 1,000 of the population (also including Maoris) for 1881 and 1896, showing again a great decrease in the number of prisoners :—

PRISONERS IN GAOL (31ST DECEMBER).

Year.		Undergoing Sentence.	Debtors and Lunatics.	On Remand and awaiting Trial.	Total.
1881	..	631	10	57	698
1882	..	570	8	58	636
1883	..	561	6	46	613
1884	..	560	5	64	629
1885	..	531	8	50	589
1886	..	558	6	61	625
1887	..	633	5	53	691
1888	..	605	2	34	641
1889	..	611	3	19	633
1890	..	517	3	42	562
1891	..	494	4	36	534
1892	..	433	5	38	476
1893	..	463	6	33	502
1894	..	483	4	68	555
1895	..	531	5	46	582
1896	..	493	2	55	550

Proportion of prisoners in confinement at end of year, per 1,000 of population, including Maoris	1881.	1896.
.. .. .	1.28	0.73

Of the prisoners previously convicted received in 1896, 359 men and 40 women had been convicted once; 191 men and 24 women twice; 729 men and 424 women three or more times: making a total of 1,279 men and 488 women.

Of 3,392 prisoners received, 2,984 were able to read and write, 129 could read only, 249 were unable to read, and 30 were of superior education.

Besides the returns from the Prisons Department, a separate card for each admission is furnished for every gaol. Such cards as show convictions are arranged alphabetically, and where several are found referring to the same person, all are thrown out but one; then the number of cards retained equals the actual number of distinct convicted prisoners received in the various gaols during the year. In 1896 this number (excluding Maoris) was 1,936, an increase of 6 on the number in 1895. These figures do not include children committed to the industrial schools simply on the ground that they are neglected or destitute.

The following table shows the number of distinct persons (exclusive of Maoris) received into gaol after conviction during 1896, classified according to nature of offence, religion, birthplace, and age :—

DISTINCT CONVICTED PRISONERS RECEIVED INTO GAOL, 1896.

[NOTE.—In this and the following tables a prisoner convicted of more than one offence during the year is reckoned once only, under the heading of the principal offence—*e.g.*, a prisoner convicted three times of drunkenness, twice of vagrancy, and once of theft, is counted only once, under the heading "Theft." Debtors and lunatics received into gaol, and children committed to the industrial schools not convicted of any crime, are omitted.]

	Offences against the Person.			Offences against Property.			Miscellaneous.					Totals.				
	Convicted on Indictment.	Summarily convicted.		Theft and Deceit.	Mischief.		Vagrancy.	Drunkenness.	Other Offences.							
		M.	F.		M.	F.			M.	F.	M.	F.	M.	F.		
Religions—																
Church of England	13	1	50	233	11	15	...	67	25	150	43	184	17	712	96	F.
Roman Catholic	4	1	51	136	10	12	3	45	28	157	51	118	20	523	115	M.
Presbyterian	5	...	24	192	6	8	...	16	10	73	16	74	7	292	40	F.
Wesleyan	...	...	5	24	...	...	...	4	1	9	1	11	...	54	4	M.
Others	1	...	11	30	1	...	...	8	...	16	..	32	1	98	2	F.
Totals	24	2	141	515	28	35	3	140	64	405	110	419	45	1,679	257	M.
Birthplaces—																
England and Wales	...	...	38	139	4	11	...	48	17	117	23	132	10	488	55	F.
Scotland	2	...	16	55	3	6	...	20	6	73	12	49	4	221	26	M.
Ireland	5	...	31	60	10	7	3	23	18	105	45	71	18	302	97	F.
New Zealand	8	...	41	177	9	8	...	30	20	53	20	95	10	414	50	M.
Australian Colonies	1	1	4	31	1	1	...	7	1	15	7	20	2	79	12	F.
Other British possessions	1	...	2	6	1	...	...	2	1	5	...	10	...	26	2	M.
China	1	...	1	4	...	...	...	1	...	...	...	3	...	10	...	F.
Other countries	3	1	8	43	...	2	...	9	1	35	3	39	1	139	6	M.
Totals	24	2	141	515	28	35	3	140	64	405	110	419	45	1,679	257	F.
Agos—																
Under 10 years	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	M.
10 and under 12 years	...	...	...	2	...	...	...	...	...	...	...	...	...	1	...	F.
12 and under 15 years	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	M.
15 and under 20 years	4	...	9	74	5	5	...	3	5	5	...	22	8	122	13	F.
20 and under 25 years	2	...	29	91	2	5	...	17	4	40	5	71	3	255	14	M.
25 and under 30 years	3	2	26	84	2	2	...	33	9	54	15	71	5	273	33	F.
30 and under 35 years	7	...	36	114	8	12	...	29	24	90	29	102	8	390	71	M.
35 and under 40 years	4	...	20	62	9	7	1	27	15	97	35	87	16	324	80	F.
40 and under 45 years	4	...	14	45	1	3	1	17	6	76	23	51	8	208	39	M.
45 and under 50 years	2	...	7	21	1	1	...	14	1	43	3	15	2	103	7	F.
50 and under 60 years	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	M.
60 years and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F.
Totals, 1896	24	2	141	515	28	35	3	140	64	405	110	419	45	1,679	257	M.
Totals, 1895	47	6	138	491	31	47	5	197	100	353	110	374	12	1,647	293	F.

Of the above prisoners convicted, 27 men were released upon probation under "The First Offenders' Probation Act, 1886," as against 49 in 1895, 25 in 1894, 13 in 1893, 11 in 1892, and 24 in 1891. During the year 1896, 72 persons were placed upon probation, as against 118 in 1895, and 75 in 1894. Forty-three carried out the conditions of their licenses satisfactorily and were discharged, 4 were rearrested and committed to prison, and 71 were at the end of the year still under the supervision of the Probation Officers, completing their respective terms of probation. The Inspector of Prisons remarks, as to the working of the Act from the beginning, that "Of the 633 persons placed on probation since the Act came into force in October, 1886, 540 have been discharged after satisfactorily carrying out the terms of their licenses, 37 were rearrested and sentenced to various terms of imprisonment, 2 died, 16 have eluded the vigilance of the Probation Officer, and 38 remain on probation. The figures speak for themselves, and require no comment to show what a really good Act it is, and how well it is working."

The following shows the number of distinct persons (exclusive of Maoris) imprisoned in the past ten years after conviction, counting one offence only when the same person was imprisoned more than once. The proportion per 10,000 persons living is added for each year:—

Distinct Persons imprisoned after Conviction.

Year.	Prisoners.	Proportion per 10,000 of Population.	Year.	Prisoners.	Proportion per 10,000 of Population.
1887	.. 2,639	44.25	1892	.. 2,164	33.69
1888	.. 2,531	41.81	1893	.. 2,111	31.92
1889	.. 2,399	39.00	1894	.. 1,955	28.78
1890	.. 2,397	38.61	1895	.. 1,930	27.87
1891	.. 2,113	33.55	1896	.. 1,936	27.11

There has been since 1887 a decrease of 26.64 per cent. in the number of distinct convicted prisoners, and a reduction of 17.14 in the proportion to population. In New South Wales the proportion for 1892 was 75 per 10,000 persons.

It must be understood that the actual number of imprisonments was much in excess of the figures given, as many persons were several times imprisoned, either for offences differing in kind or for repetitions of the same offence. Thus, persons returned as imprisoned for larceny underwent other imprisonments for drunkenness, &c. Some returned as convicted of drunkenness were several times in gaol during the year for the same offence, or for another, such as assault, riotous or indecent conduct, &c. Often there were several charges preferred against the same person at the one time, of which the most serious followed by conviction has been selected.

The proportions of adherents of each of the four principal religious denominations in every 100 distinct convicted prisoners during the past five years are shown in the next table, with the percentages of population belonging to the same denominations at the date of the last census:—

RELIGIOUS DENOMINATIONS OF DISTINCT CONVICTED PRISONERS RECEIVED IN 1896.

Denominations of Convicted Prisoners.	Proportion per 100 of Convicted Prisoners.					Proportion of Denomination per 100 of Population at Census of 1896.
	1892.	1893.	1894.	1895.	1896.	
Church of England ..	43·21	44·48	44·66	44·46	41·74	40·27
Roman Catholic ..	33·13	33·16	31·72	31·61	32·95	14·09
Presbyterian ..	15·30	14·21	15·60	15·49	17·15	22·78
Wesleyan ..	3·65	2·99	3·22	3·00	3·00	10·44
Others ..	4·71	5·16	4·80	5·44	5·16	12·42

The following are the respective proportions of the convicted prisoners received at each age-period of life to every 100 prisoners of either sex for the years 1895 and 1896:—

AGES OF DISTINCT CONVICTED PRISONERS RECEIVED IN GAOL, 1895 AND 1896.

Age.	Male Prisoners.		Per 100 Male Prisoners.		Female Prisoners.		Per 100 Female Prisoners.	
	1895.	1896.	1895.	1896.	1895.	1896.	1895.	1896.
Under 20 years ..	163	126	9·90	7·50	13	13	4·59	5·06
20 and under 30 years ..	447	528	27·14	31·45	57	47	20·14	18·29
30 and under 40 years ..	408	390	24·77	23·23	82	71	28·93	27·63
40 and under 50 years ..	311	324	18·88	19·30	82	80	28·98	31·13
50 and under 60 years ..	209	208	12·69	12·39	42	39	14·84	15·17
60 years and upwards ..	109	103	6·62	6·13	7	7	2·47	2·72
Totals ..	1,647	1,679	100·00	100·00	283	257	100·00	100·00

Still excluding Maoris, the following are the proportions of distinct convicted prisoners, classified according to birthplace, for each of the past five years:—

BIRTHPLACES OF DISTINCT CONVICTED PRISONERS RECEIVED IN GAOL, 1892-1896.

Birthplace	Number of Convicted Prisoners.					Proportion of each Nationality to every 100 Prisoners.					Proportion of Persons of each Nationality to every 100 of Population, 1896.
	1892.	1893.	1894.	1895.	1896.	1892.	1893.	1894.	1895.	1896.	
England & Wales	728	700	598	546	543	33·64	33·16	30·59	28·29	28·05	16·89
Scotland ..	270	252	231	206	247	12·48	11·94	11·82	10·68	12·76	7·18
Ireland ..	528	526	447	439	399	24·40	24·92	22·86	22·75	20·61	6·55
New Zealand ..	328	355	406	476	473	15·16	16·82	20·77	24·66	24·43	62·85
Australian Colo- nies	79	111	93	95	91	3·65	5·26	5·01	4·92	4·70	3·10
Other British possessions	47	29	28	28	28	2·17	1·37	1·43	1·45	1·44	0·53
China ..	3	10	9	13	10	0·14	0·47	0·46	0·67	0·52	0·53
Other foreign countries	181	128	138	127	145	8·36	6·06	7·06	6·58	7·49	2·37

Crime amongst the New-Zealand-born.

While the New-Zealand-born formed at the last census 63 per cent. of the whole population of the colony, they contributed in 1896 not more than 25 per cent. of the prisoners received in gaol. Of the New-Zealand-born population, however, a large number are under 15 years of age, a period of life at which there are very few prisoners; and, therefore, another comparison is necessary. It is found that the New-Zealand-born over 15 years formed 44 per cent. of the total population; but, as before stated, New-Zealanders constituted less than 25 per cent. of the total number received in gaols.

The total number of distinct prisoners (excluding Maoris) received for the year 1896—473 persons—is found to be 157 in excess of the number for 1890. Of those received in 1896, 115 were under twenty years of age. As before stated, the plan adopted in preparing the foregoing tables is to count each prisoner only once, and to exclude all who are not convicted prisoners, besides dealing only with the number received during the year, instead of with the full number in gaol, which would, of course, include those brought forward from the previous year. The comparative results for a series of years given by this method are held to be more valuable than those brought out by one which includes prisoners merely awaiting trial, and continual repetitions of the same individuals.

Inquests.

The number of bodies on which inquests were held in 1896 was 820, including 16 Maoris. In 637 cases the bodies were of males, and in 183 of females. The verdicts may be classified as under:—

Nature of Verdict.	Inquests on Persons.		
	Males.	Females.	Total.
Accident	316	56	372
Disease and natural causes	238	105	343
Intemperance	7	2	9
Homicide	3	3	6
Suicide	58	12	70
Not classed	15	5	20
	637	183	820

Of the accidental deaths, drowning is still the most fatal form. The verdicts show that 113 bodies were found drowned, giving a percentage of 30·38 on the accidental deaths from all causes.

The inquests on suicidal deaths in 1896 show a decrease on the number for the previous year, but are in excess of the numbers in 1893 and 1892. The numbers are:—

Year.	Inquests on Suicides.			Year.	Inquests on Suicides.		
	Males.	Females.	Total.		Males.	Females.	Total.
1892 ..	50	8	58	1895 ..	66	10	76
1893 ..	49	15	64	1896 ..	58	12	70
1894 ..	58	17	75				

Fire Inquests.

The inquests on fires held during 1896 were 60. In nineteen cases the verdict was incendiarism; in three, accident; in thirty-seven no evidence was forthcoming; and in one case insufficient evidence.

SECTION VI.—LICENSES AND LICENSED HOUSES, ETC.

LICENSES AND LICENSED HOUSES.

DURING the year ended the 31st March, 1897, 2,263 licenses for the sale of intoxicating liquors were granted. Of these, 1,538 were publicans' and accommodation licenses, 7 New Zealand wine, 35 bottle, 53 packet, 140 wholesale, and 490 conditional. The fees paid amounted to £53,635, and formed part of the revenue of the local governing bodies of the districts in which the licenses were issued. Particulars are given in the following table:—

NUMBER OF LICENSES GRANTED DURING THE YEAR 1896-97, AND THE AMOUNT OF FEES PAID TO LOCAL BODIES THEREFOR.

Licenses.		In Counties.	In Boroughs.	
Publicans' licenses	.. ..	633	676	1,309
Accommodation licenses	.. ..	229	..	229
Total licensed houses	.. ..	862	676	1,538
New Zealand wine licenses	.. ..	1	6	7
Bottle licenses*	.. ..	3	32	35
Packet licenses	.. ..	5	48	53
Wholesale licenses	.. ..	9	131	140
Conditional licenses	.. ..	388	102	490
Total licenses granted	.. ..	1,268	995	2,263
Amount of license-fees paid to local bodies		£20,384	£33,251	£53,635

The average number of persons to each licensed house in counties and boroughs respectively, for 1896-97, is next shown:—

	Number of Licensed Houses.†	Estimated Population.	Average Number of Persons to each Licensed House.
Counties	862	391,814	455
Boroughs	676	321,504	476
Totals	1,538	713,318	464

In 1895-96 the number of licensed houses in counties was 885, and those in boroughs 676, giving a total of 1,561 houses, or 23 more than in 1896-97. The average number of persons to a house increased from 443 in 1895-96 to 455 in 1896-97 in counties, and in boroughs the average increased from 455 to 476.

* By the Act of 1895 no new bottle licenses may be granted.
 † *I.e.*, houses holding publicans' or accommodation licenses.

The annual fees paid for licenses are—

(1.) For a publicans' license	£
(a.) Within the limits of a borough or town district	40*
(b.) Outside the aforesaid limits	25
(2.) For a New Zealand wine license	1
(3.) For an accommodation license, a sum to be determined by the Licensing Committee, not exceeding	20
(4.) For a bottle license†	40
(5.) For a packet license—	
(a.) For a vessel exceeding 50 tons register.. .. .	10
(b.) For a vessel not exceeding 50 tons register	5
(6.) For a wholesale license	20
(7.) For a conditional license, according to duration of license, a sum not exceeding	30

The approximate capital value of the licensed houses in the counties was stated at £670,737, and the same for certain of the boroughs at £124,725. There was, besides, an annual value of £110,120 for other licensed houses in the boroughs.

The total number of persons engaged in or connected with the sale or manufacture of wine, spirits, beer, cordials, &c., was returned at the census of 1896 as under :—

	Males.	Females.	Persons.
Hotelkeeper	1,334	204	1,538
Relative assisting	157	348	505
Manager, clerk	67	11	78
Hotel, club, &c., servant	1,136	2,075	3,211
Manager, secretary, steward of club-house	32	3	35
Barman, barmaid	196	210	406
Wine, spirit, ale merchant	43	..	43
Assistant	5	1	6
Clerk, book-keeper, accountant, tra- veller, storeman	44	..	44
Cordial, &c., merchant, salesman	5	..	5
Brewer, bottler	234	4	238
Manager, clerk, traveller	53	..	53
Relative assisting, apprentice	18	..	18
Cellarman, assistant, carter, &c.	151	1	152
Maltster and assistants	118	..	118
Distiller, bottler	2	..	2
Wine-maker, -bottler	9	..	9
Cordial, &c., maker	293	6	299
Clerk, book-keeper, traveller	6	..	6
Totals	3,903	2,863	6,766

Remarks on the high rate of mortality ruling amongst men connected with the liquor trade in respect of various diseases, as compared with the death-rate of males engaged in other occupations, will be found on page 141, in Section II., dealing with vital statistics.

* Between the hours of six in the morning and ten at night. For an eleven o'clock license an additional £5 must be paid.

† By the Act of 1895 no new bottle licenses may be granted.

LOCAL OPTION POLL.

Under "The Alcoholic Liquors Sale Control Act, 1893," each electoral district constituted for the election of a member of the House of Representatives is a licensing district, and electors for the House of Representatives are also electors under the Licensing Acts.

Under the Amendment Act of 1895 the licensing poll is taken at the same time as the general election of members of the House of Representatives. The questions for the decision of the voters are,—

- (1.) Whether the number of licenses existing in the district shall continue?
- (2.) Whether the number shall be reduced?
- (3.) Whether any licenses whatever shall be granted?

The voter may vote for one or two of these proposals, but no more.

The method of determining the result of the poll in each district by the Returning Officer is as follows:—

(1.) If the number of votes recorded in favour of the continuance of existing licenses is an absolute majority of all the voters whose votes were recorded, the proposal is to be deemed to be carried, and the licenses continue until the next poll, subject to certain provisions in special cases.

(2.) If the number of votes recorded in favour of a reduction in the number of licenses is an absolute majority of all the voters whose votes were recorded, the proposal is deemed to be carried, and supersedes the proposal for continuance of licenses. The Licensing Committee then reduces publicans' licenses by not less than 5 per cent. or more than 25 per cent. of the total number existing, excluding forfeitures. Provision is made that when a reduction vote is carried the licenses shall be reduced by one at least when the total number does not exceed ten, two when not over twenty, and three at least when the licenses exceed thirty.

(3.) If the number of votes recorded in favour of the proposal that no license shall be granted is not less than three-fifths of all the voters whose votes were recorded, the proposal is declared to be carried, and supersedes the proposal for reduction and for continuance, and no licenses can be granted.

(4.) If none of the proposals respecting licenses are carried by the prescribed majority the licenses continue as they are until next poll, subject to certain provisions in special cases.

The result of the poll taken on 4th December, 1896, for each licensing district is as follows:—

RESULT OF LOCAL OPTION POLL.

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RESULT OF LOCAL-OPTION POLL, 1896.

District.	Number on Roll.	For Continuance.	For Reduction.	For No License.	Total Number of Persons who voted at Poll.			Informal Votes.	Result of Poll.
					Men.	Women.	Total.		
Bay of Islands ..	3,988	1,481	834	892	1,842	770	2,612	59	Continuance carried.
Marsden ..	4,110	1,281	1,331	1,583	1,951	1,122	3,073	..	No proposal carried.
Waitemata ..	4,881	1,749	1,220	1,314	2,075	1,230	3,305	73	Continuance carried.
Eden ..	5,203	1,869	1,449	1,473	1,930	1,696	3,626	118	"
City of Auckland..	20,204	6,269	5,317	4,783	6,730	6,304	13,034	456	No proposal carried.
Parnell ..	5,521	1,926	1,538	1,360	1,977	1,908	3,785	39	Continuance carried.
Manukau ..	5,532	1,634	1,239	1,161	1,636	1,436	3,132	..	"
Franklin ..	4,733	1,859	1,670	1,607	2,236	1,554	3,790	127	"
Thames ..	5,141	2,017	1,532	1,775	2,693	1,295	3,988	126	"
Ohinemuri ..	5,667	2,066	1,144	1,533	2,878	968	3,846	194	"
Waikato ..	3,668	1,577	901	939	1,647	1,029	2,676	73	"
Bay of Plenty ..	3,949	1,639	1,093	1,131	1,906	1,194	3,100	130	"
Waipau ..	4,881	1,911	1,610	1,896	2,478	1,484	3,962	84	No proposal carried.
Hawke's Bay ..	4,746	2,162	1,210	1,524	2,450	1,424	3,874	203	Continuance carried.
Napier ..	5,132	2,086	1,769	1,627	2,111	1,839	3,970	150	"
Waipawa ..	4,387	2,010	1,093	1,444	2,294	1,417	3,711	55	"
Pahiatua ..	4,057	1,417	1,106	1,561	2,057	1,128	3,185	86	No proposal carried.
Masterton ..	4,541	1,789	1,216	1,423	2,236	1,185	3,421	..	Continuance carried.
Wairarapa ..	4,337	2,142	1,048	1,161	2,250	1,359	3,609	..	"
Tigmont ..	4,146	1,553	1,251	1,527	2,182	1,134	3,316	78	"
Teranaki ..	5,244	2,068	1,815	2,007	2,452	1,834	4,286	..	No proposal carried.
Hawera ..	4,105	1,440	1,531	1,794	2,041	1,372	3,413	66	"
Patea ..	3,985	1,354	1,094	1,295	1,897	940	2,837	98	Continuance carried.
Wanganui ..	5,252	2,307	1,591	1,748	2,246	1,900	4,206	..	"
Rangitikei ..	5,036	2,120	1,268	1,469	2,569	1,207	3,776	134	"
Palmerston ..	4,599	1,701	1,255	1,274	1,809	1,347	3,156	..	"
Manawatu ..	4,170	1,777	1,030	1,231	1,988	1,257	3,195	..	"
Otaki ..	3,929	1,780	747	639	1,866	1,288	3,154	..	"
Suburbs of Wellington	5,594	2,000	1,659	1,633	2,208	1,963	4,171	270	No proposal carried.
City of Wellington	19,304	6,826	5,663	4,931	7,377	5,791	13,168	458	Continuance carried.
City of Nelson ..	4,523	2,120	1,316	1,020	1,976	1,752	3,728	55	"
Motueka ..	3,666	1,672	802	854	1,824	1,161	2,985	124	"

RESULT OF LOCAL-OPTION POLL, 1896.—*continued.*

District.	Number on Roll.	For Continuance.	For Reduction.	For No License.	Total number of Persons who voted at Poll.			Informal Votes.	Result of Poll.
					Men.	Women.	Total.		
Wairau ..	5,123	2,536	1,160	1,123	2,363	1,745	4,108	149	Continuance carried.
Buller ..	5,013	2,281	1,387	1,498	2,740	1,615	4,355	7	"
Grey ..	4,508	2,134	1,120	1,127	2,359	1,131	3,490	..	"
Westland ..	4,614	2,196	950	982	2,329	1,217	3,546	194	"
Ashley ..	4,059	1,936	934	1,186	2,117	1,229	3,376	..	"
Kaipoi ..	4,703	2,079	1,671	1,796	2,182	1,849	4,031	..	"
Avon ..	4,173	1,817	986	979	1,670	1,416	3,086	115	"
City of Christchurch ..	18,439	8,235	5,952	5,261	7,911	7,195	15,106	572	"
Lyttelton ..	4,282	2,004	1,048	1,120	1,891	1,608	3,494	125	"
Riccarton ..	4,120	2,108	992	949	1,808	1,506	3,314	121	"
Ellersmere ..	3,727	1,653	1,078	1,173	1,682	1,287	2,969	..	"
Selwyn ..	4,059	1,837	1,102	1,164	2,056	1,128	3,184	14	"
Ashburton ..	4,851	2,100	1,326	1,565	2,363	1,613	3,976	203	"
Geraldine ..	4,354	1,938	1,100	1,422	2,045	1,530	3,575	..	"
Timaru ..	4,773	2,060	1,531	1,560	1,934	1,775	3,709	94	"
Waikaiti ..	4,873	1,751	1,317	1,625	2,165	1,800	3,465	..	"
Oamaru ..	4,615	2,163	1,603	1,615	2,152	1,751	3,903	80	"
Waihemo ..	4,077	1,880	1,120	1,234	2,078	1,287	3,345	116	"
Waikouaiti ..	3,991	1,635	1,187	1,278	1,694	1,409	3,103	53	"
City of Dunedin ..	18,571	7,897	5,284	4,466	7,133	7,453	14,583	..	"
Caversham ..	5,559	2,726	1,542	1,264	2,197	2,252	4,449	140	"
Taieri ..	3,859	1,390	1,098	1,134	1,766	1,134	2,890	58	"
Bruce ..	4,040	1,411	1,428	1,541	1,922	1,259	3,081	74	"
Tuaspeka ..	3,907	1,894	945	1,052	2,098	1,097	3,195	..	No proposal carried.
Clutha ..	4,644	1,618	1,630	1,989	2,283	1,444	3,727	60	Continuance carried.
Mataura ..	4,997	2,145	1,431	1,637	2,368	1,565	3,933	68	"
Wakatipu ..	4,046	1,973	778	940	2,174	1,001	3,175	117	"
Wallace ..	3,927	1,951	784	1,027	2,111	1,084	3,175	..	"
Invercargill ..	5,713	2,558	1,770	1,824	2,288	2,255	4,543	..	"
Awatua ..	3,362	1,652	959	1,113	1,794	1,138	2,922	69	"
	389,230	139,580	94,555	98,312	151,235	108,663	259,898	..	

It will thus be seen that 139,580 votes were recorded in favour of continuance of existing licenses, 94,555 for reduction, and 98,312 for no license. In fifty-two districts the majority of voters were in favour of continuance, and in ten districts none of the proposals were carried. In four of the districts—namely, Marsden, Hawera, Bruce, and Clutha—a majority of those who polled voted for prohibition, but not the necessary three-fifths required to carry that issue.

FIRE BRIGADES.

On the 31st December, 1897, there were eighty-three fire brigades in the colony, with a total strength of 1,532 (230 officers and 1,352 men). Compared with the numbers in 1896, these figures show a decrease of two brigades and twenty-two officers, but an increase of five in the number of men. Of the eighty-three brigades now existing, seventy-one belong to the United Fire Brigades Association of New Zealand.

SECTION VII.—REPRESENTATION, AND THE GENERAL ELECTION OF 1896. ...

REPRESENTATION.

ON the basis of the results of the census of 1896 the colony is divided in accordance with the Representation Act Amendment Acts, 1887 and 1889, into sixty-two districts for purposes of European representation—fifty-eight rural districts having one member each, and four city electorates three members each. The Act of 1889 directed that in computing for electoral purposes the population of the colony 28 per cent. should be added to the country population—*i.e.*, all persons living outside towns of 2,000 inhabitants and over. The total population of the colony (other than Maoris), with the addition aforesaid, having been ascertained, was then divided by the number of members (70), and the quotient thus obtained formed the quota. The four city electoral districts (which have three members each) were so defined in extent that the population should be three times the quota. Inasmuch as it would be impossible to divide the country into a given number of districts all having exactly the precise quota of population, the law permits the Commissioners to make an allowance of 750 persons by way of addition to or deduction from the population of rural districts, and of 100 in case of city electorates; and due consideration is given to community of interest, facilities of communication, and topographical features, as far as possible, in forming the districts.

"The Representation Act Amendment Act, 1896," provides for two permanent Commissions, called the "North" and "Middle" Island Representation Commissions. These sit together as a joint Commission for the purpose of fixing the number of districts for the North and Middle Islands respectively, but afterwards act separately and independently of one another, the duties and functions of each being confined to their respective island.

The North Island with its adjacent islands includes 30 electoral districts, having 34 members; the Middle and Stewart Islands having 32 districts and 36 members. In 1893 the North Island returned 31 and the Middle Island 39 members. But movement of population has resulted in the addition of three members to the North, and a corresponding reduction in the Middle Island.

These districts are, as above stated, for purposes of European representation. But the colony is again divided into four districts for purposes of Maori representation, under the electoral law, each district having one Native member elected by the Maoris; so that the House of Representatives consists of 74 members altogether—70 Europeans and 4 Maoris.

THE ELECTORAL ACTS.

By the principal Act, which came into force in 1893, the great step was taken of admitting women to the franchise. The Amendment Act of 1896 abolished the non-residential or property qualification, with a saving clause in favour of then-existing registrations in respect of such qualification.

THE GENERAL ELECTION OF 1896.

For European Representatives.

(Polling-day, 4th December, 1896. Number of Polling-places, 1,521.)

Dealing with the population of both sexes, it is found that the total number of persons on the rolls was 339,230, out of a total adult population estimated at 356,658. These results give a proportion of 95·11 per cent. of adults who were registered as electors, as against 94·98 at the previous election in 1893. The number of persons who voted was 258,254, or 76·13 per cent. of the number on the rolls, a slightly higher proportion than obtained in 1893, which was 75·25 per cent.

Date of General Election.	Total Adult Persons.	Number on Rolls.	Proportion of Adult Persons registered as Electors.	Number of Persons who voted.	Proportion of Persons on Rolls who voted.
1893	319,010	302,997	94·98	220,082	75·25*
1896	356,658	339,230	95·11	258,254	76·13

Dealing with men only, the number on the rolls was 196,925, or almost the full number of adult males in the colony as estimated from the census. It would seem that the rolls must have been, at any rate, more accurate than in 1893, when the number of male names was actually fourteen thousand above the estimated adult male population. The males who voted in 1896 were 149,471, or 75·90 per cent. of those on the rolls, against 69·61 per cent. in 1893.

Date of General Election.	Total Adult Males.	Number on Rolls.	Proportion of Adult Males registered as Electors.	Number who voted.	Proportion of Males on Rolls who voted.
1893	179,539	193,536	†	129,792	69·61*
1896	197,002	196,925	99·96	149,471	75·90

* Excluding figures for three electorates in which there was no contest.

† The number on rolls was in excess of the estimated adult male population at the date of the election.

The figures relating to women show that a larger proportion (89·13 per cent.) of adults were registered as electors in 1896 than in 1893 (78·48 per cent.), which would indicate an increasing disposition to use the franchise. But the number of women who voted,

108,783, is only 75.44 per cent. of the females on the rolls, while in 1893 there were 90,290 who voted, giving the higher proportion of 85.18 per cent.; so that as to actual voting (assuming the figures to be correct) there is no proof of a greater willingness now on the part of the females to go to the poll than at the time the franchise was conferred upon them.

Date of General Election.			Total Adult Females.	Number on Rolls.	Proportion of Adult Females registered as Electors.	Number who voted.	Proportion of Females on Rolls who voted.
1893	..	..	139,471	109,461	78.48	90,290	85.18*
1896	..	..	159,656	142,305	89.13	108,783	76.44

* Excluding figures for three electorates in which there was no contest.

The following table shows for the different districts the number of electors of each sex on the rolls, with the voters, and the estimated population:—

District.	Number of Members.	Estimated Population, 4th Dec., 1896.	Electors on Roll.		Number of Voters who recorded Votes.	
			Males.	Females.	Males.	Females.
Bay of Islands ..	1	9,980	2,834	1,154	1,837	770
Marsden ..	1	9,797	2,628	1,482	1,941	1,132
Waitemata ..	1	9,536	3,194	1,687	2,554	705
Eden ..	1	10,617	2,769	2,434	1,863	1,708
City of Auckland	3	36,039	10,872	9,332	6,730	6,304
Parnell ..	1	10,893	2,655	2,866	1,838	1,908
Manukau ..	1	10,592	2,939	2,593	1,612	1,577
Franklin ..	1	10,147	2,641	2,092	2,212	1,682
Thames ..	1	10,222	3,509	1,632	2,680	1,295
Ohinemuri ..	1	9,600	4,181	1,486	2,811	968
Waikato ..	1	10,034	2,250	1,438	1,595	1,015
Bay of Plenty ..	1	9,537	2,436	1,513	1,864	1,194
Waiaapu ..	1	9,544	3,100	1,781	2,430	1,484
Hawke's Bay ..	1	9,717	3,023	1,723	2,435	1,395
Napier ..	1	11,434	2,742	2,390	2,244	1,921
Waipawa ..	1	8,745	2,721	1,666	2,187	1,524
Pahiatua ..	1	8,637	2,625	1,432	2,028	1,131
Masterton ..	1	9,638	2,963	1,578	2,223	1,185
Wairarapa ..	1	8,670	2,742	1,595	2,223	1,321
Egmont ..	1	9,523	2,706	1,440	2,160	1,136
Taranaki ..	1	10,736	2,912	2,332	2,374	1,872
Hawera ..	1	8,707	2,487	1,618	2,023	1,360
Patea ..	1	8,658	2,771	1,214	1,862	930
Wanganui ..	1	10,412	2,881	2,371	2,182	1,960
Rangitikei ..	1	9,572	3,379	1,657	2,523	1,207
Palmerston ..	1	10,342	2,701	1,898	1,809	1,347
Manawatu ..	1	8,725	2,553	1,617	1,893	1,257
Otaki ..	1	8,650	2,329	1,600	1,850	1,284
Suburbs of Wellington	1	10,717	2,864	2,730	2,185	1,951

District.	Number of Members.	Estimated Population, 4th Dec., 1896.	Electors on Roll.		Number of Voters who recorded Votes.	
			Males.	Females.	Males.	Females.
City of Wellington ..	3	36,020	11,028	8,276	7,377	5,791
City of Nelson ..	1	10,879	2,400	2,123	2,012	1,767
Motueka ..	1	9,342	2,210	1,456	1,817	1,161
Wairau ..	1	10,538	2,958	2,165	2,338	1,745
Buller ..	1	9,741	3,184	1,829	2,718	1,615
Grey ..	1	10,020	2,908	1,600	2,307	1,134
Westland ..	1	9,468	3,244	1,370	2,314	1,217
Ashley ..	1	9,496	2,535	1,524	2,103	1,249
Kaipoi ..	1	9,923	2,501	2,202	2,156	1,875
Avon ..	1	9,827	2,037	2,136	1,646	1,892
City of Christchurch ..	3	36,032	9,244	9,195	7,507	7,599
Lyttelton ..	1	10,789	2,243	2,039	1,863	1,617
Riccarton ..	1	9,100	2,276	1,844	1,787	1,490
Ellesmere ..	1	9,579	2,156	1,571	1,816	1,235
Selwyn ..	1	9,401	2,510	1,549	2,042	1,128
Ashburton ..	1	10,331	2,878	1,973	2,002	1,604
Geraldine ..	1	9,130	2,528	1,826	2,045	1,530
Timaru ..	1	10,300	2,498	2,275	1,947	1,775
Waitaki ..	1	9,661	2,787	1,586	2,218	1,261
Oamaru ..	1	10,292	2,524	2,091	2,072	1,751
Waihemo ..	1	9,888	2,484	1,593	2,031	1,267
Waikouaiti ..	1	9,576	2,182	1,809	1,694	1,409
City of Dunedin ..	3	35,496	8,907	9,664	7,133	7,450
Caversham ..	1	11,511	2,718	2,841	2,149	2,253
Taieri ..	1	9,618	2,265	1,594	1,714	1,124
Bruce ..	1	8,877	2,361	1,679	1,759	1,259
Tuapeka ..	1	9,421	2,513	1,394	2,038	1,119
Clutha ..	1	9,952	2,808	1,836	2,242	1,444
Mataura ..	1	9,904	3,005	1,992	2,343	1,560
Wakatipu ..	1	9,567	2,765	1,281	1,982	1,001
Wallace ..	1	9,401	2,565	1,362	2,066	1,064
Invercargill ..	1	10,909	2,869	2,844	2,290	2,253
Awarua ..	1	9,645	2,427	1,435	1,770	1,117

Particulars are given for the four city electorates where the electors have the right of voting for three members:—

The number of votes exercisable is more than ten thousand in excess of those recorded, so that some of the electors evidently voted for only one or two candidates.

City.	Number of Members returned.	Electors on the Rolls.			Voters who recorded Votes.			Number of Votes recorded.	Number of Votes exercisable by Persons who voted.
		Men.	Women.	Total.	Men.	Women.	Total.		
Auckland ..	3	10,872	9,332	20,204	6,730	6,304	13,034	36,819	39,102
Wellington ..	3	11,028	8,276	19,304	7,377	5,791	13,168	37,624	39,504
Christchurch ..	3	9,244	9,195	18,439	7,507	7,599	15,106	42,551	45,318
Dunedin ..	3	8,907	9,664	18,571	7,133	7,450	14,583	40,047	43,749
Total ..	12	40,051	36,467	76,518	28,747	27,144	55,891	157,041	167,673

Electoral Districts and Names of Candidates.	Number of Votes recorded.		Electoral Districts and Names of Candidates.	Number of Votes recorded.	
	For each Candi- date.	Total.		For each Candi- date.	Total.
<i>Suburbs of Wellington :</i>			<i>City of Christchurch :</i>		
Wilford, T. M.* ..	2,194		Lewis, C. ..	6,570	
Hislop, T. W. ..	1,942	4,136	Smith, G. J. ..	5,940	
<i>City of Wellington :</i>			Taylor, T. E. ..	5,445	
Hutcheson, J. ..	6,411		Collins, W. W. ..	5,309	
Stout, Sir R.† ..	6,306		Ell, H. G. ..	4,705	
Fisher, G.* ..	5,859		Beswick, H. J. ..	3,874	
Atkinson, A. R. ..	5,831		Donnelly, M. ..	3,709	
Wilson, C. ..	5,570		Cullen, W. ..	3,365	
Menteath, A. A. S. ..	5,560		Marciel, J. A. H. ..	2,982	
Fraser, F. H. ..	1,811		Taylor, R. M. ..	555	
Powell, J. J. K. ..	185		Partridge, J. T. ..	97	42,551
Warburton, A. ..	91	37,624	<i>Lyttelton :</i>		
<i>City of Nelson :</i>			Joyce, J. ..	1,734	
Graham, J. ..	2,061		Jacques, W. ..	1,288	
Piper, J. ..	1,718	3,779	Webb, S. R. ..	458	3,480
<i>Motueka :</i>			<i>Riccarton :</i>		
McKenzie, R. ..	1,306		Rolleston, W. ..	1,834	
Hursthouse, R. ..	1,180		Russell, G. W. ..	1,443	3,277
Franklyn, W. N. ..	492	2,978	<i>Ellesmere :</i>		
<i>Wairau :</i>			Montgomery, W. H. ..	1,806	
Mills, C. H. ..	2,068		Anson, F. A. ..	1,245	3,051
Buick, T. L. ..	2,015	4,083	<i>Selwyn :</i>		
<i>Buller :</i>			Wason, J. C. ..	1,676	
O'Regan, P. J. ..	2,310		Saunders, A. ..	1,494	3,170
Colvin, J. ..	2,023	4,333	<i>Ashburton :</i>		
<i>Grey :</i>			Wright, E. G. ..	1,320	
Guinness, A. R. ..	2,653		McLachlan, J. ..	1,078	
Bell, R. F. ..	788	3,441	Sawle, J. W. ..	981	
<i>Westland :</i>			Ivess, J. ..	227	3,606
Seddon, R. J. ..	2,707		<i>Geraldine :</i>		
Grimmond, J. ..	824	3,531	Flatman, F. R. ..	1,893	
<i>Ashley :</i>			Rhodes, A. E. G. ..	1,682	3,575
Meredith, R. ..	1,700		<i>Timaru :</i>		
Reece, H. F. ..	1,323		Hall-Jones, W. ..	2,181	
Renner, G. ..	329	3,357	Smith, F. H. ..	1,541	3,722
<i>Kaipoi :</i>			<i>Waitaki :</i>		
Moore, R. ..	2,145		Steward, W. J. ..	2,012	
Buddo, D. ..	1,886	4,031	Sutherland, D. ..	1,013	
<i>Avon :</i>			Clarke, O. V. ..	299	
Tanner, W. W. ..	1,552		Parker, H. R. ..	155	3,479
McIntyre, G. ..	1,095		<i>Oamaru :</i>		
Swann, G. ..	307		Duncan, T. Y. ..	2,297	
Burgess, C. ..	84	3,038	Sievwright, J. D. ..	1,526	3,823

* An election petition against the return of Mr. G. Fisher, lodged by Mr. A. R. Atkinson, the candidate who stood fourth at the poll, was tried in February, 1897, before two Judges sitting as an Election Petition Court. A re-count and scrutiny of votes polled by Messrs. Fisher and Atkinson resulted in a report that "the said George Fisher was found to have polled 5,829 votes, and the said Arthur Richmond Atkinson 5,789 votes, giving thereby the said George Fisher a majority of forty votes." The Court determined that the said George Fisher was duly elected. For full grounds of petition see *Hansard*, Sess. I., 1897, p. 7.

The same Court determined that the election of Mr. T. M. Wilford was void, the grounds of the petition being corrupt and illegal practices. Mr. Charles Wilson was elected for Suburbs of Wellington on 23rd April, 1897; the votes recorded being—for Mr. Wilson, 2,036; for Mr. Atkinson, 1,900. The same Court upheld the election of Henare Kaihau, after hearing a petition against it.

† Sir R. Stout resigned his seat on 10th February, 1898, and Mr. J. Duthie was elected on 12th March, 1898. Mr. Duthie was opposed by Mr. R. C. Kirk, and the votes recorded were—for Mr. Duthie, 7,504; for Mr. Kirk, 6,270.

Electoral Districts and Names of Candidates.	Number of Votes recorded.		Electoral Districts and Names of Candidates.	Number of Votes recorded.	
	For each Candi- date	Total.		For each Candi- date.	Total.
<i>Waihemo :</i>			<i>Bruce :</i>		
McKenzie, J. ..	1,926		Allen, J. ..	2,039	
Duncan, J., jun. ..	1,372	3,298	Auld, W. ..	979	3,018
<i>Waikouaiti :</i>			<i>Tuapeka :</i>		
Allen, E. G... ..	1,427		Larnach, W. J. M. ..	1,589	
Ramsay, J. J. ..	661		Rawlins, C. O. ..	1,568	3,157
Green, J. ..	588		<i>Clutha :</i>		
Thomson, A. ..	370		Thomson, J. W. ..	1,991	
Clark, G. J... ..	57	3,103	Edie, J. ..	1,076	
<i>City of Dunedin :</i>			Ayson, T. ..	415	
Mackenzie, M. J. S. ..	7,821		Blair, J. ..	204	3,686
Millar, J. A. ..	6,236		<i>Mataura :</i>		
Fish, H. S.* ..	6,067		Richardson, G. F. ..	2,052	
Pinkerton, D. ..	5,723		McNab, R. ..	1,851	3,903
Hutchison, W. ..	5,016		<i>Wakatipu :</i>		
Begg, A. C. ..	4,412		Fraser, W. ..	1,595	
Earnshaw, W. ..	2,421		George, J. ..	1,260	
Gore, J. ..	1,300		Graham, H. ..	128	2,983
Burton, A. H. ..	374		<i>Wallace :</i>		
Aston, M. ..	272		Gilfedder, M. ..	820	
Lester, F. M. ..	209		Neave, T. ..	655	
Nicol, D. ..	196	40,047	Valentine, H. S. ..	645	
<i>Caversham :</i>			Hirst, H. ..	510	
Morrison, A. ..	2,307		Mackintosh, J. ..	500	3,130
Sidey, T. K. ..	1,126		<i>Invercargill :</i>		
Wardrop, W. ..	664		Kelly, J. W. ..	2,238	
Barron, W. ..	305	4,402	Sinclair, J. ..	1,659	
<i>Taieri :</i>			Scandrett, W. B. ..	646	4,543
Carncross, W. C. F. ..	1,679		<i>Awamua :</i>		
Graham, J. ..	1,159	2,838	Ward, J. G.† ..	1,836	
			Cowan, C. ..	1,051	2,887

	1896.	1893.	1890.
Number of votes recorded for members elected ..	184,929	153,663	88,150
Number of votes recorded for defeated candidates ..	174,475	149,413	61,875
Total votes recorded† ..	359,404	303,076	150,025
Number of names on rolls in districts uncontested ..	..	10,539	13,688
Number of names on rolls in districts where elections were contested ..	339,230	292,458	169,483
Total number of electors ..	339,230	302,997	183,171
Total population at last census ..	708,119	626,359	573,557

* Mr. H. S. Fish died on 23rd September, 1897, and Mr. A. Sligo was elected on 16th October, 1897. Mr. Sligo was opposed by Messrs. H. Gourley and W. Hutchison; the votes recorded being 5,045 for Mr. Sligo, 4,065 for Mr. Gourley, and 2,030 for Mr. Hutchison.

† Hon. J. G. Ward resigned his seat on 14th July, 1897, and was re-elected on 13th August, 1897. Opposed by Mr. Cowan. Votes recorded—2,041 in favour of the Hon. J. G. Ward, and 913 in favour of Mr. Cowan.

‡ Total number of electors who recorded their votes: 258,254 in 1896, and 220,082 in 1893.

For Maori Representatives.

(Polling-day, 19th December, 1896.)

Of a Maori population amounting to 39,854 persons, 13,008 voted at the general election. In 1893 the voters numbered 11,269, or 1,739 persons fewer than on the last occasion. As the Native population did not increase between 1891 and 1896, but rather diminished somewhat, it would appear that Maoris are taking more interest as to their representation in Parliament than formerly, or that there is now more convenience for attending to vote and better knowledge of political affairs. The numbers of voters for the several districts were:—

Electoral Districts	Population.			Number who voted.	Per Cent. of Population at all Ages.
	Males.	Females.	Totals.		
North Island—					
Northern Maori ..	5,165	4,010	9,175	2,104	22·93
Eastern Maori ..	6,931	6,064	12,995	4,164	32·00
Western Maori ..	8,247	6,893	15,140	6,072	40·11
Middle Island—					
Southern Maori ..	1,330	1,214	2,544	668	26·26
Totals ..	21,673	18,181	39,854	13,008	32·64

The votes recorded for each candidate were:—

Electoral Districts and Names of Candidates.	Number of Votes recorded.		Electoral Districts and Names of Candidates.	Number of Votes recorded.		
	For each Candi- date.	Total.		For each Candi- date.	Total.	
<i>Northern Maori Electoral District:</i>						
Hone Heke ..	1,706	2,104	Te Aohau Nikitini ..	435	6,072	
Eparaima Kapa ..	398		Pepene Eketone ..	351		
<i>Eastern Maori Electoral District:</i>						
Wi Pere ..	2,549	4,164	Wiremu Ngapaki ..	261		
Tamati Tautuhi ..	805		Reha Aperahama ..	185		
Tare Mete ..	563		Te Ramana Nutana ..	168		
Maika Taruke ..	182		Wirihana Hunia ..	49		
Eriata Nopera ..	65		Hohepa Horomana ..	22		
<i>Western Maori Electoral District:</i>						
Henare Kaihau ..	1,601	866	Te Kahui Kararehe ..	8		
Ropata te Ao ..	837		<i>Southern Maori Electoral District:</i>			
Mehia Keepa te Rangi- hiwinui ..	866		Tame Parata ..	262		
Ngarangi Katitia ..	662		Tame Rangiwhabia Eri- hana ..	149		
Hone Omipi ..	577		Riki te Mairaki Taiaroa	144		
			Teoti Pita Mutu ..	113		
		Total..		13,009		

GENERAL ELECTIONS FOR EUROPEAN REPRESENTATIVES HELD FROM THE YEAR
1853.

Parliament.	Date of General Election.	Number of Names on Roll of Electors.	Number of Members returned.	Number of Members returned unopposed.	Number of Votes recorded (or of Voters recording Votes).	Population of the Colony at end of year.	Average Number of		
							Persons to each Member.	Persons to each Elector.	Electors to each Member.
First ..	1853 ¹	5,934	37	*	*	30,000	811	5.1	160
Second ..	1855 ²	10,324	37	*	*	37,192	1,005	3.6	279
Third ..	1861	13,466	53	*	*	79,711	4,504	5.9	254
Fourth ..	1866 ³	33,338	52	*	*	190,607	2,647	5.7	463
Fifth ..	1871	47,275	74	*	*	248,400	3,357	5.3	639
Sixth ..	1875	61,755	84	*	*	375,856	4,474	6.1	735
Seventh ..	1879	82,271	84	14	43,776	463,729	5,521	5.6	979
Eighth ..	1881	120,972	91	11	69,385	500,310	5,505	4.1	1,329
Ninth ..	1884	137,686	91	11	74,672	564,304	6,201	4.1	1,513
Tenth ..	1887	175,410	91	5	111,911	603,361	6,630	3.4	1,928
Eleventh ..	1890	183,171	70	6	136,337	625,508	8,936	3.4	2,617
Twelfth ..	1893	302,997	70	3	220,082	672,265	9,604	2.2	4,328
Thirteenth ..	1896	339,230	70	..	258,254	714,162	10,202	2.1	4,853

*Information not obtainable.

¹ Including 100, the estimated number in Akaroa District, for which there is no return.

² Including 800, the estimated number in the electorates of Town of New Plymouth, Grey and Bell, and Omata, for which districts there are no returns.

³ Electors for the Electoral District of "The Otago Goldfields" not included.

⁴ Men and women.

⁵ Voters recording votes.

SECTION VIII.—LOCAL GOVERNING BODIES.

COUNTIES, BOROUGHs, ETC.

For purposes of local government New Zealand is divided into counties and boroughs. Although the boroughs, of which there were 97 in March, 1897, lie geographically within the counties, yet by the law they are not considered as part of them. On the 31st March, 1897, the counties numbered 81. The number is increased from time to time as need is found for further division. In the year 1878 there were only 63 counties. Interior to the counties are the road and town districts, but much of the country is outlying, many road districts having been merged, especially on goldfields territory. There were, however, 244 road districts in existence in March, 1897, and 39 town districts. One of these latter is the special Town District of Rotorua, constituted under "The Thermal-Springs Districts Act, 1881." Besides the above there were 30 river protective districts, 1 drainage district (Christchurch), 2 water-supply districts, and 13 land drainage districts under the Land Drainage Act of 1893. The Harbour Boards numbered 26.

These bodies levied rates in the financial year 1896-97, to the amount of £598,525, of which £426,990 consisted of general rates, and £171,535 special and separate rates. £75,752 were raised by licenses, and £17,996 in other taxes, making £692,273 altogether, which sum is equivalent to 19s. 6d. per head of the mean European population of the colony. In the year 1895-96 the average per head of local taxation was 19s. 8d., or 2d. more than in 1896-97.

TAXATION BY LOCAL BODIES, 1896-97.

Local Bodies.	Rates.				Licenses.	Other Taxes.	Total.	
	General.		Special and Separate.					
	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Counties * ...	158,360	9 6	30,253	7 9	19,521	19 11	10,552	2 7
Boroughs * ...	123,718	5 0	130,006	7 0	49,085	13 0	5,898	17 2
Town Boards * ...	3,831	5 9	248	18 2	4,380	2 7	244	18 6
Road Boards * ...	82,245	3 4	8,677	2 2	1,864	8 4	1,300	2 9
River Boards * ...	6,010	2 0	1,320	14 11	...	...	...	...
Land-drainage Boards * ...	1,189	18 10	104	13 2	...	...	...	...
Harbour Boards † ...	32,061	19 5	...	...	...	...	...	...
Christchurch Drainage Board † ...	19,564	4 10	...	...	...	...	...	...
Waimakariri-Ashley Water-supply Board* ...	...	...	923	18 9	...	...	...	...
Totals ...	426,990	8 8	171,535	2 8	75,752	4 7	17,996	1 0
							692,273	16 11½

* For year ended 31st March, 1897.

† For year ended 31st December, 1896.

† Wharfage dues, charges, fees, tolls, rents, &c., amounting to £259,098 7s. 4d., have not been classed as taxation.

§ Equal to 19s. 6d. per head of the mean European population of the colony for the financial year 1896-97.

The receipts (distinguishing revenue from other sources of income) and expenditure of the various local bodies, with the amount of rates collected, and the amount of indebtedness on account of loans for each of the past seventeen years, are shown in the following table:—

LOCAL GOVERNING BODIES.—RATES, RECEIPTS, EXPENDITURE, AND LOANS, 1881 TO 1897.*

Year.	Receipts of Local Bodies.				Expendi- ture of Local Bodies.†	Outstanding Loans of Local Bodies (ex- cluding Gov- ernment Loans, for which see the following Columns).	Government Loans to Local Bodies.	
	Revenue .		Receipts not Revenue.	Total Receipts.			£	£
	From Rates.	From Gov- ernment and other Sources.						
Year ended 31st March, 1881	249,087	814,142	889,705	1,952,934	1,871,752	3,039,807	£	Under "The Gov- ernment Loans to Local Bodies Act, 1886" (in- cluding Debent- ures under the Roads and Bridges Con- struction Act, converted).
" " " 1882	297,328	694,652	419,608	1,411,588	1,397,337	3,277,584	..	Under "The Roads and Bridges Con- struction Act, 1882."
" " " 1883	327,129	600,450	311,466	1,239,045	1,637,863	3,540,046	..	
" " " 1884	398,659	744,527	331,994	1,475,180	1,499,117	3,962,390	77,439	
" " " 1885	401,393	841,895	430,561	1,673,849	1,653,706	4,313,223	123,086†	
" " " 1886	410,639	832,618	514,728	1,807,985	1,644,706	4,943,270	134,534	
" " " 1887	434,237	790,063	992,638	2,216,938	1,885,001	5,620,747	113,072	
" " " 1888	433,832	795,067	511,594	1,740,498	1,819,787	5,812,803	18,685	
" " " 1889	445,929	676,428	316,139	1,438,496	1,560,605	5,892,050	10,495	191,687
" " " 1890	460,303	707,725	206,688	1,374,716	1,476,540	5,978,059	9,676	273,289
" " " 1891	463,581	662,765	236,902	1,363,248	1,381,320	6,042,693	4,317	319,608§
" " " 1892	488,824	693,296	214,124	1,396,244	1,400,467	6,081,984	4,245	367,715
" " " 1893	508,157	709,676	340,538	1,558,371	1,482,548	6,208,869	3,465	449,532
" " " 1894	531,412	681,831	623,038	1,856,281	1,589,124	6,614,824	2,685	525,173
" " " 1895	581,868	683,857	328,798	1,594,523	1,584,518	6,685,510	2,015	547,679
" " " 1896	592,903	738,146	269,145	1,600,194	1,627,079	6,737,578	1,442	621,903
" " " 1897	598,526	765,047	246,919	1,610,492	1,636,716	6,798,398	1,077	667,451
" " "								709,282

* The figures for the Christchurch Drainage Board and the Harbour Boards included in this table are for the calendar years ended three months previous to the financial years. † Not including balances, contractors' deposits returned, amounts paid to sinking funds and for redemption of debentures. § On the 30th June. ¶ In February.

From the foregoing table it will be seen that since 1881 revenue derived from rates has more than doubled, having increased from £249,087 in 1880-81 to £598,526 for the year 1896-97. Revenue from Government and other sources has, on the other hand, decreased in the same period—seventeen years. Receipts which cannot be classed as revenue were £889,705 in 1880-81 against only £246,919 in 1896-97; but these figures vary from year to year according to the circumstances, such as large operations by way of construction of works, for which money has to be specially raised.

The indebtedness of local governing bodies on account of outstanding loans has increased by 123 per cent., from £3,039,807 to £6,793,398, exclusive of moneys borrowed from Government under “The Roads and Bridges Construction Act, 1882,” and “The Government Loans to Local Bodies Act, 1886,” which represented a further indebtedness of £710,359 at the end of March, 1897.

RECEIPTS AND EXPENDITURE, 1896-97.

A summary of all the transactions for the year 1896-97 is given on pages 215, 216. The total revenue of the local bodies for the financial year was £1,363,573, and they further received a sum of £246,919 which could not properly be termed “revenue,” making altogether a grand total of receipts amounting to £1,610,492. The rates formed 44 per cent. of the revenue proper. Licenses, rents, and other sources yielded 43 per cent., and 13 per cent. was granted by the General Government.

While the revenue proper of the counties amounted to £347,448, of which these bodies raised £188,614 by way of rates, the Road Boards' revenue was only £149,185, out of which £90,922 represented the result of their rating. The boroughs had the far larger revenue of £477,155, including £253,725 of rates, and their receipts under the heading of licenses, rents, and other sources amounted to the considerable sum of £209,188. In the matter of receipts from Government, of which a table is printed on the next page, the counties received the bulk of the money, £118,228, the largest item being £56,856 goldfields revenue and gold duty; the next, £38,062, subsidies under Local Bodies' Finance and Powers Act; and £19,525 one-third receipts from lands sold on deferred payments, &c.

The expenditure of the local bodies amounted to £1,636,716. In the counties the cost of management, including salaries, travelling-expenses, rent, printing and advertising, collection of rates or tolls, legal expenses, and sundries, was £42,799 out of a total expenditure of £441,480. The Borough Councils expended in the same way £45,896 out of £577,491; and the Road Boards £15,530 out of £170,327. The percentages borne by the cost of management to the total receipts and total expenditure were,—

				Cost of Management per Cent. of Total Receipts. Total Expenditure.	
Counties ..	..	..	..	9·6	9·7
Boroughs ..	..	..	..	8·5	7·9
Road Boards	..	..	..	9·0	9·1

The financial operations of the County Councils for the year under review were much larger than those of the Road Boards, and the amount raised by rates more than double.

The details of amounts received, representing Government support to the various bodies, are stated in the following table :—

LOCAL GOVERNING BODIES.—RECEIPTS FROM GOVERNMENT, 1896-97.

Heads of Receipt.	Counties.		Boroughs.		Town Boards.		Road Boards.		Land Drainage Boards.		Harbour Boards.		Waimakariri Water-supply Board.		Totals.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
Rates on Crown and Native lands	138	17 7	76	14 4	...	...	...	...	...	...	...	...	...	...	205	11 11
One-third receipts from land sold on deferred payment and from perpetual leases	19,525	12 11	...	...	28	4	514,894	19 9	...	...	...	...	...	...	34,446	17 1
One-fourth of rents from small grazing-runs	2,316	9 6	...	...	...	...	315	18 0	...	...	...	...	...	...	2,582	7 6
Goldfields revenue and gold duty	56,856	0 6	1,065	17 9	41	2 5	238	15 11	...	...	...	...	...	...	58,231	16 7
Subsidies under the Local Bodies' Finance and Powers Act	38,062	3	312,339	11 9	572	15	418,893	18 6	...	...	...	...	...	...	69,837	8 10
Fees and fines under the Financial Arrangements Act	602	11 10	347	4 7	8	13 8	6	5 11	...	...	...	...	...	...	964	15 7
Other receipts	836	18 4	412	12 10	213	2 4	8,964	18 2	92	16	46,708	19 4	...	...	12,223	7 4
Total Revenue Account	118,223	13 11	14,242	1 3	661	17	936,313	16 3	92	16	46,708	19 4	...	...	178,448	4 10
Loans under Government Loans to Local Bodies Act	38,118	0 0	1,729	5 9	400	0	913,941	0 0	4,050	0 0	...	...	...	...	83,298	5 9
Grants for special works, &c.	43,562	9 0	3,572	5 10	...	...	866	0 0	...	...	...	...	188	14 10	48,189	9 8
Total receipts from Government...	199,909	2 11	19,543	12 10	1,261	17	938,120	16 3	4,142	16	46,708	19 4	188	14 10	280,876	0 3

LOCAL GOVERNING BODIES.—RECEIPTS, EXPENDITURE, AND LOANS, 1896-97.

Financial Year ended 31st March, 1897.

	Counties.	Boroughs.	Town Boards.	Road Boards.	River Boards (excluding Inland Clutha, also Road Board).	Land-drainage Boards.	Waimakariri Water-supply Board.	Totals.
Receipts:—	£	£	£	£	£	£	£	£
Revenue from—								
Rates, taxes, and other	188,614	253,725	4,080	90,923	7,340	1,294	924	546,800
Licences, fines, and	...	...	...	...	...	...	...	...
Grants	40,606	200,188	7,406	12,518	4,202	372	...	274,352
Government	118,238	14,242	893	38,314	...	93	...	171,739
County	...	...	207	7,431	...	...	...	7,638
Total revenue	347,448	477,155	12,555	140,185	11,602	1,759	924	1,000,628
Receipts not revenue	100,644	65,715	531	22,910	139	5,420	897	1,196,265
Total receipts	448,092	542,870	13,086	172,104	11,741	7,179	1,821	1,196,893
Expenditure:—								
Public works	311,144	231,002	7,355	123,684	6,059	8,010	5,550	691,804
Charitable aid and hos-	...	...	...	...	...	...	...	...
pitals	84,503	29,026	314	8,730	...	...	...	75,672
Management	42,700	45,896	2,015	15,530	1,181	214	258	107,893
Other expenditure	52,944	271,567	2,023	23,374	4,190	499	993	356,172
Total expenditure	441,480	577,491	12,397	170,887	11,439	8,723	6,774	1,228,541
Liabilities (including loans)	627,774	3,190,637	6,345	846,732	64,340	17,042	15,909	4,108,859
Loans†	10,510	2,817,378	1,144	6,500	39,105	...	15,200	2,869,837

* For amounts under various heads see previous table; also for specification of loans under Government Loans to Local Bodies Act, and special grants, which are here included with "Receipts not revenue." † For rates of interest see page 218. ‡ Not including loans, amounting to £710,339, repayable by instalments under "The Roads and Bridges Construction Act, 1882," and "The Government Loans to Local Bodies Act, 1884."

LOCAL GOVERNING BODIES.—RECEIPTS, EXPENDITURE, AND LOANS—*continued.*

	Financial Year ended 31st December, 1896.		Totals—all Local Bodies.
	Harbour Boards.	Drainage Board.	
Receipts:—	£	£	£
Revenue from—			
Rates	32,062	19,564	598,525
Licenses, rents, and other sources ...	303,979	630	578,961
Government*	6,709	...	178,448
County	...	...	7,638
Total revenue	342,750	20,194	1,363,572
Receipts not revenue	50,654	...	246,919
Total receipts	393,404	20,194	1,610,491
Expenditure:—			
Public works	110,011	5,008	800,623
Charitable aid and hospitals... ..	...	...	72,672
Management	11,859	705	120,457
Other expenditure	260,506	13,996	636,764
Total expenditure	388,466	19,709	1,636,716
Liabilities (including loans)	3,602,324	210,947	8,182,130
Loans†	3,703,561	200,000	6,793,308

* † See notes to table on previous page.

NOTE.—The return of receipts and expenditure in this summary represents the net receipts and expenditure of the year, exclusive of credit and debit balances, bank overdrafts, deposits, amounts paid to sinking funds, and for redemption of debentures.

LOANS OF LOCAL BODIES.

The outstanding loans of local governing bodies form the subject-matter dealt with in the two next tables. From them it will be seen that the total amount owing was, on the 31st March, 1897, £6,793,398. But against this accrued sinking funds to the value of £550,144 were held, leaving a net debt of £6,243,254, exclusive of moneys borrowed from the General Government and repaid by annual instalments.

The total annual charge (excluding exchange and commission) stood at £394,990, of which £363,352 were for interest, and the remainder, £31,638, contributions to sinking fund accounts.

Of the total indebtedness in 1896–97 the debt of the Harbour Boards, £3,703,561, formed the largest item, while the Borough Councils owed £2,817,378.

Referring once more to the comparative table on page 212, and to the great advance in local bodies' debts, it will be found that between 1885–86 and 1895–96 the gross indebtedness increased from £4,943,270 to £6,737,578, an addition of £1,794,308 for the period, or 36·30 per cent. Between the same (census) years population advanced from 578,482 to 703,360, the increase having been 124,878 persons, or 21·59 per cent. The wealth of the colony was estimated at about £170,000,000 in 1886 and £215,000,000 in 1896, an accretion of £45,000,000 during the ten years. Thus, while the population of New Zealand increased by 21·59 per cent. in ten years, and wealth by 26·47 per cent., the debt of the local governing bodies advanced at the higher ratio of 36·30 per cent. during the same period.

In the second table (page 218) will be found a summary of the amounts raised by loan, classified according to the rates of interest paid, distinguishing loans raised in the colony from those raised abroad. It will be noticed that the amount raised abroad (£5,456,700) is more than four times as great as that raised in New Zealand (£1,336,698). The lowest rate of interest paid was 3 per cent., but the large sum of £3,181,461 was raised at 5 per cent., and £2,552,482 at 6 per cent., while £194,660 bore interest as high as 7 per cent.

LOANS OF LOCAL BODIES, MARCH, 1897.—NET INDEBTEDNESS AND ANNUAL CHARGE.

	Amount of Debentures and Stock in Circulation.	Amount of Accrued Sinking Fund.	Net Indebtedness.	Annual Charge (excluding Exchange and Commission).		
				Interest.	Sinking Fund.	Total.
Counties	£ 10,510	£ 490	£ 10,020	£ 671	£ 80	£ 751
Boroughs	2,817,378	290,416	2,526,962	155,266	11,807	167,073
Town Boards	1,144	31	1,113	69	31	100
Road Boards	6,500	135	6,365	339	36	375
River Boards	39,105	7,112	31,993	2,097	421	2,518
Water-supply Board	15,200	..	15,200	790	..	790
Harbour Boards	3,703,561	228,499	3,475,062	192,120	17,263	209,383
Drainage Board	200,000	23,461	176,539	12,000	2,000	14,000
Totals	6,793,898	550,144	6,243,754	363,352	31,638	394,990
Inscribed debt of local bodies under "The Government Loans to Local Bodies Act, 1886" (including inscribed stock exchanged for debentures under "The Roads and Bridges Construction Act, 1892")	709,282	..	709,282*	..	..	44,067
Outstanding debentures under "The Roads and Bridges Construction Act, 1882"	1,077	..	1,077	..	..	365†
Totals	7,503,757	550,144	6,953,613	..	..	439,422

* Repayable by annual instalments of £14,067, representing 5 per cent. per annum on £281,389, the amount inscribed to 1st February, 1897. Payments for 20 years of 5 per cent. per annum on the amount inscribed (£281,389), including £49,874 debenture under "The Roads and Bridges Construction Act, 1882," exchanged would be £146,576. The actual repayments to date are £253,679, leaving £28,366 to be paid by way of interest and sinking fund on a present indebtedness of £709,282.

† Amount for 1896-97.

LOANS OF LOCAL BODIES RAISED WITHIN AND WITHOUT THE COLONY.

TABLE showing the Amount of Indebtedness of Counties, Boroughs, Town, Road, River, and Water-supply Boards, as on the 31st March, 1897, and of Harbour and Drainage Boards as on the 31st December, 1896, classified according to the Rates of Interest paid, distinguishing Loans raised in the Colony from those raised elsewhere. (See note †.)

Loans raised in the Colony.

Local Bodies.	No Interest.	3 %	4 %	4½ %	5 %	5½ %	5½ %	6 %	6½ %	7 %	8 %	Total.
Counties ..	£	£	£	£	£	£	£	£	£	£	£	£
Boroughs ..	25,000	..	11,000	40,125*	2,000	..	..	2,500	..	6,010	..	10,510
Town Boards ..	..	..	..	..	97,950	18,000	64,900	5,000†	270,808	3,100	114,900	650,878
Road Boards ..	..	..	..	1,800	2,400	..	..	..	1,144	..	..	1,144
River Boards ..	..	..	..	..	1,500	..	5,020	..	2,300	..	..	6,500
Water-supply Board ..	..	..	..	..	12,200	..	..	..	11,585	..	..	18,105
Harbour Boards ..	..	15,650	5,500	28,000	549,411	..	32,000	..	3,000	..	..	15,200
Total in colony ..	25,000	15,650	16,500	69,925*	665,461	18,000	101,920	5,000†	294,782	3,100	121,260	1,936,698

Loans raised outside the Colony.

Boroughs ..	..	..	..	259,600	800,700	..	..	..	1,032,800	..	73,400	2,166,500
River Boards ..	..	..	..	..	21,000	..	..	..	..	..	..	21,000
Harbour Boards ..	..	..	250,000	100,000	1,694,300	..	..	..	1,024,900	..	..	3,069,200
Drainage Board ..	..	..	..	..	..	..	..	..	200,000	..	..	200,000
Total outside colony ..	..	..	250,000	359,600	2,516,000	..	..	..	2,257,700	..	73,400	5,456,700

Total Loans.

Counties ..	..	..	..	..	2,000	..	..	..	2,500	..	6,010	10,510
Boroughs ..	25,000	..	11,000	299,725*	898,650	18,000	64,900	5,000†	1,303,608	3,100	188,300	2,817,378
Town Boards ..	..	..	..	..	..	..	..	..	1,144	..	..	1,144
Road Boards ..	..	..	..	1,800	2,400	..	..	..	2,300	..	..	6,500
River Boards ..	..	..	..	..	22,500	..	5,020	..	11,585	..	..	39,105
Water-supply Board ..	..	..	..	..	12,200	..	..	..	3,000	..	..	15,200
Harbour Boards ..	..	15,650	255,500	128,000	2,243,711	..	32,000	..	1,028,850	..	350	3,703,561
Drainage Board ..	..	..	..	..	..	..	..	..	200,000	..	..	200,000
Total loans raised ..	25,000	15,650	265,500	429,525*	3,181,461	18,000	101,920	5,000†	2,552,482	3,100	194,660	6,798,398

* Including £500 at £4 7s. 6d. per cent.

† Including £2,000 at 5½ per cent.

† Not including loans amounting to £710,350, repayable by annual instalments under "The Roads and Bridges Construction Act, 1882," and "The Government Loans to Local Bodies Act, 1886."

The aggregate interest-charge for the year under review was £363,352, and £292,582 of this was payable on loans raised outside the colony. The average rate of interest payable to bondholders was rather more than £5 7s. 4d. per cent., as shown hereunder:—

Loans raised.	Debentures and Stock in Circulation.	Interest-charge.	Average Rate of Interest.
	£	£	%
In the Colony	{ 25,000 1,311,698	Nil. 70,770	.. 5·395
Outside the Colony ..	5,456,700	292,582	5·361
Total (excluding loans from Government) ..	6,793,398*	363,352	5·368

The sums raised at each rate of interest and the annual interest payable are next shown:—

Debentures and Stock in Circulation.	Rate of Interest.	Amount of Interest payable.
£	%	£ s. d.
15,650	3	469 10 0
266,500	4	10,660 0 0
500	4½	21 17 6
429,025	4½	19,306 2 6
3,181,461	5	159,073 1 0
18,000	5½	945 0 0
101,920	5½	5,605 12 0
3,000	5½	172 10 0
2,000	5½	114 0 0
2,552,482	6	153,148 18 5
3,100	6½	201 10 0
194,660	7	13,626 4 0
100	8	8 0 0
25,000	Nil	..
6,793,398	†5½ (nearly)	363,352 5 5

The average rate of interest on the total debt has been gradually decreasing since 1889, the first year for which a statement was compiled. The figures for each year, 1889 to 1897, are:—

Year ended 31st March.	Loans outstanding of Local Bodies.	Interest-charge.	Average Rate per Cent.
	£	£	
1889	5,892,050	328,887	5·58
1890	5,978,059	333,455	5·58
1891	6,042,693	334,021	5·53
1892	6,081,934	335,744	5·52
1893	6,203,869	340,636	5·49
1894	6,614,824	356,510	5·41*
1895	6,685,510	358,292	5·38*
1896	6,737,578	361,306	5·38*
1897	6,793,398	363,352	5·37*

VALUE OF PROPERTY IN COUNTIES AND BOROUGHES.

The aggregate value of real property in all boroughs, road, town, and outlying districts in the colony on the 31st March, 1897, was:—

* The £25,000 on which no interest is paid has not been taken into account in computing the average rate of interest.

† Computed on the amount of debt less the £25,000 which carries no interest-charge.

Local Bodies.	Rateable Property.	Unoccupied Crown and Native Lands.	Total.
	£	£	£
Boroughs	3,855,098	†	3,855,098
Boroughs (annual value, £2,173,834,* capitalised at 6 per cent.) ..	36,230,567	†	36,230,567
Counties—			
Road districts	38,671,999	1,655,404	40,327,403
Town districts	857,668	14,614	872,282
Town districts (annual value,* £28,734, capitalised at 6 per cent.)	478,900	†	478,900
Outlying	34,519,952	5,726,826	41,478,191
	1,231,413†		
Totals	114,614,184	7,396,844	123,242,441
	1,231,413†		

* By "The Rating Act, 1894," "the 'rateable value' of any property means the rent at which such property would let from year to year, deducting therefrom 20 per centum in case of houses, buildings, and other perishable property, and 10 per centum in case of land and other hereditaments, but shall in no case be less than 5 per centum on the value of the fee-simple thereof." † Not returned.

† Aggregate value in Counties of Rotorua, East Taupo, West Taupo, Kawhia, and Sounds. In these counties there are no local bodies raising revenue, consequently the respective values of rateable and other property cannot be distinguished.

Here the total value of property in counties amounts to £83,156,776, and that in boroughs to £40,085,665.

The total value of real property in the colony, according to returns furnished by the local bodies, amounted, in March, 1897, to, £123,242,441. This includes £114,614,184, value of rateable property, and £7,396,844 value of unoccupied Crown and Native lands which are not rateable. For five counties, however, where there are no local bodies raising revenue, the value of property is shown in the previous table in one amount, £1,231,413, without separating the unoccupied Crown and Native lands from those that are rateable.

Some of the boroughs and town districts rate on a capital value, but most of them upon an annual value of property. In the foregoing statement the annual value has, where necessary, been capitalised at 6 per cent.

In case of the boroughs, the Act under which the valuation is made provides for a reduction from the renting-value of 20 per cent. on houses and buildings, and 10 per cent. on land. The actual annual value of the properties will, therefore, be greater than the rating value by from 11 to 25 per cent.

All the preceding figures are taken from returns furnished by local bodies; but in 1896 an Act was passed providing for the appointment of a Valuer-General, and for the periodical valuation of all land in the colony. The Valuer-General is the Commissioner of Taxes for the time being. The valuations on the general roll are to be used for the assessment of land-tax, stamp duties, and duties on deceased persons' estates: also, for the purposes of advances and investments on mortgage of land by the Post Office, Government Insurance, Public Trust, Advances to Settlers Office, and other Departments, if the Government directs. The general valuation-roll is to show the capital value of the property, of improvements, and the unimproved value of the land.

VALUATION IN 1891 UNDER LAND AND INCOME ASSESSMENT ACT.

By a general valuation of land (including tenements, buildings, and hereditaments), with all improvements, made under "The Land and Income Assessment Act, 1891," in November of that year, the following results were arrived at. The value of the improvements is shown distinct from the unimproved value of the lands. All land is included, whether occupied or unoccupied, whether belonging to companies or private persons, local authorities, Natives, or the Crown.

VALUE OF PROPERTY: ASSESSMENT UNDER LAND AND INCOME ASSESSMENT ACT, NOVEMBER, 1891.

Counties and Boroughs.			Actual Value, including Improvements. £	Value of Improvements. £	Unimproved Value. £
Counties	..	..	85,818,167	27,922,735	57,880,233
Boroughs	..	..	36,406,862	18,442,562	17,907,662
Totals	..	..	122,225,029	46,365,297	75,787,895

Since 1891 the total value of property in boroughs has been increased by the constitution of new boroughs, and that of the counties correspondingly reduced. This will account for the increase in the town and the decrease in the county property shown in the local bodies' returns for March, 1897.

The figures for the North and Middle Islands, according to the above assessment, together with the results of the previous assessment made in 1888, are reproduced as being still interesting, and as affording a good index of the progress of the colony within the dates given:—

		1888. £	1891. £	Increase. £
North Island ..	..	49,607,873	57,441,115	7,833,242
Middle Island ..	..	61,529,841	64,783,914	3,254,073
Totals	..	111,137,714	122,225,029	11,087,315

RATING ON UNIMPROVED VALUE.

"The Rating on Unimproved Value Act, 1896," gives power to local governing bodies to levy rates upon the unimproved instead of upon the capital (or annual) value of real property, provided that the proposal to do so has been demanded by the required proportion of ratepayers, submitted to the ratepayers' vote, and declared carried by a majority of the valid votes recorded by at least one-third of the ratepayers on the roll.

Rates made and levied under this Act must be so adjusted as to equal as nearly as may be, but not exceed in their producing capacity, rates made and levied on the capital (or annual) value under "The Rating Act, 1894." A full analysis of the Act is given as a special article in Part III. of this work.

Up to the end of December, 1897, only two Borough Councils and one Road Board had notified in the *New Zealand Gazette* that the proposal to levy rates on the unimproved value of land had been carried, while in one case the proposal had been rejected.

The amount of rates levied by the various Borough Councils, County Councils, Town Boards, and Road Boards, and the value of the rateable property in each as returned by these bodies, with other particulars for the 31st March, 1897, were:—

BOROUGHs, 1896-97.

Name of Borough.	Estimated Area (including Town Belt) in Acres.	Population.	Number of			Amount of Rate levied in the Pound.					Estimated Annual (renting) Value of Rateable Property in March, 1897.	Capital Value of Rateable Property March, 1897.
			Dwellings.	Ratepayers.	Rateable Properties.	General.	Separate.	Special.	Water.	Library.		
Whangarei	1,825	1,150	320	263	353	s. d. 0 0½	s. d. ..	s. d. ..	s. d. ..	s. d. ..	£ 6,000	£ 84,829
Birkenhead	2,803	700	..	185	210	1 3	0 2½	0 2½	..	..	21,449	..
Devonport	640	3,060	565	583	913	1 0	..	0 9	92d., or 4 per cent.	..	313,183	..
Auckland	1,773	7,320	7,610	5,210	7,448	1 0	..	1 0	2½ per cent. (1)	0 0½	16,154	..
Newton	900	2,510	508	496	748	1 0	..	0 4	4 to 6 per cent.	..	11,447	..
Newmarket	150	1,929	352	264	314	1 2	..	0 7	4 to 6 per cent.	..	25,853	..
Parnell	480	4,250	830	543	778	1 3	..	0 9	4 per cent.	..	14,644	..
Onehunga	1,200	2,913	610	672	960	0 9	..	..	2½ per cent.	0 1	23,254	..
Thames	2,560	5,500	1,130	842	1,323	1 0	0 6	..	..	..	8,786	..
Hamilton	1,600	1,250	400	390	630	1 0	..	..	..	..	4,746	..
Cambridge	1,083	865	249	252	688	1 0	..	..	..	..	4,365	..
Tauranga	1,000	1,025	363	405	601	1 0	..	1 3	..	..	26,000	..
Gisborne	1,260	2,500	425	435	720	1 3	..	0 6	..	..	26,500	..
New Plymouth	850	4,000	725	767	1,094	1 3	..	0 10	6d. and 1s.	..	12,000	..
Hawera	500	2,000	450	364	650	1 3	..	..	..	..	4,863	..
Patea	1,420	739	206	189	540	1 3	0 4½	..	..	..	44,500	..
Wanganui	1,000	6,200	1,200	900	1,418	0 10	..	1 6	..	..	10,233	..
Marion	1,423	1,200	225	243	454	1 1	..	1 0	..	0 1	15,149	..
Felling	3,500	2,100	410	422	831	1 3	..	1 0	..	0 1	..	..
Palmerston North	4,593	5,910	1,232	1,087	2,500	0 0½	..	0 1½	(2)	..	..	554,628

	1 116	216	218	477	1 3	..	..	..	0 1	7,040
Foxton	5,740	8,279	686	726	1,076	1 3	..	..	..	35,760
Hatia	879	9,231	1,742	904	2,526	0 6	(⁶)	..	..	83,058
Napier	1,222	1,500	311	312	838	1 3	..	..	..	9,271
Danuevirke	1,240	1,060	834	453	453	1 3	..	..	..	9,948
Woodville	750	1,200	260	372	443	1 3	..	..	..	8,866
Pahiatua	4,311	3,600	724	623	1,114	1 0	0 5	..	0 1	28,604
Masterton	1,880	1,800	265	236	300	0 0½	..	..	..	87,456
Carterton	3,907	1,127	238	221	356	1 0	..	..	0 1	7,619
Greytown	8,255	1,530	300	254	365	0 0½	..	..	..	245,036
Lower Hutt	952	2,686	550	463	787	1 0	(⁶)	..	..	17,905
Petone	2,870	1,800	255	320	360	0 0½	..	..	..	157,737
Oswow	1,100	40,000	6,925	4,200	9,042	1 3	..	33d., 4½d., 5½d.	0 1	379,000
Wellington	5,127	1,024	191	230	209	0 0½	..	..	..	117,682
Karori	3,962	2,044	431	566	690	0 0½	0 0½	..	..	238,000
Melrose	560	850	156	374	980	0 0½	0 0½	..	..	68,494
Picton	1,571	3,000	725	485	1,434	1 1½	0 2½	..	..	25,949
Blenheim	4,800	6,659	1,404	1,151	2,287	1 1	0 1	..	..	51,721
Nelson	2,300	580	123	132	146	0 0½	..	..	..	84,755
Richmond	713	3,000	680	780	1,098	1 0	0 8	..	..	19,894
Westport	2,000	3,200	740	516	1,180	1 3	..	..	..	22,000
Greymouth	5,700	1,650	317	213	337	1 3	0 8	0 0½*	..	5,631
Brunner	842	1,130	251	240	371	0 0½	0 1½	..	..	25,118
Kumara	1,280	2,100	740	530	910	0 0½	0 1½	..	..	81,257
Hokitika	4,196	750	300	354	414	0 0½	0 1	..	..	27,214
Rose	1,040	1,871	390	349	557	0 0½	..	..	..	149,654
Rangiora	1,020	1,850	397	334	590	1 0	..	..	..	9,528
Kaipoi	1,249	16,964	3,796	2,404	4,670	1 0	0 2½	0 3	..	188,871
Christchurch	650	6,114	1,291	1,117	1,329	0 0½	(⁷)	..	..	428,838
Linwood	1,500	5,825	1,253	1,185	1,270	0 0½	¾d. & ½d.	..	..	517,561
St. Albans	1,190	10,312	2,100	1,729	2,080	0 0½	¾d. & ½d.	0 0½	..	667,750
Sydenham	1,276	2,100	430	450	554	0 0½	..	..	..	177,527
Woolston	4,876	596	164	221	364	1 1	..	..	..	6,738
Sumner	1,400	750	140	500	650	..	0 7	..	..	5,800
New Brighton	2,014	8,898	769	538	737	1 0	..	..	..	22,277
Lyttelton	221	650	133	137	194	0 0½	..	..	..	45,673
Akaroa	680	2,100	480	485	..	1 0	..	..	..	18,312
Ashburton	..	..	..	..	..	..	..	..	..	..

3d. and ½d.

4 per cent.

BOROUGHs, 1896-97—continued.

Name of Borough.	Estimated Area (Including Town Belt) in Acres.	Population.	Number of			Amount of Rate Levied in the Pound.					Estimated Annual (or Renting) Value of Rateable Property in March, 1897.	Capital Value of Rateable Property, March, 1897.
			Dwellings.	Ratepayers.	Rateable Properties.	General.	Separate.	Special.	Water.	Library.		
Timaru ..	540	3,800	728	588	1,070	s. d. 0 6	s. d. ..	s. d. 1 0	s. d. 2½ to 5 per cent.	s. d. ..	35,560	..
Waimate ..	643	1,400	500	330	500	1 0	..	..	..	..	6,845	..
Oamaru ..	1,111	5,300	1,057	1,090	1,530	1 3	..	1 6	(⁹)	..	28,833	..
Hampden ..	640	330	74	118	120	0 0½	..	..	..	..	..	10,304
Palmerston South ..	800	775	177	248	360	0 0½	..	..	..	..	..	37,190
Hawksbury ..	2,700	760	142	220	440	0 0½	..	..	..	..	..	48,400
Port Chalmers ..	335	2,036	483	460	559	1 0	..	0 6	(¹⁰)	..	11,473	..
North-east Valley ..	3,950	3,337	706	1,182	1,190	1 0	..	0 6	..	..	17,669	..
Maori Hill ..	3,700	1,480	312	314	350	1s. 3d.	..	..	..	..	10,277	..
West Harbour ..	1,670	1,500	232	475	625	1 0	..	1 0	..	..	9,154	..
Dunedin ..	1,800	22,815	4,713	2,762	4,819	1 0	0 1	0 3	(¹¹)	..	233,363	..
Roslyn ..	2,000	4,100	777	856	978	1 0	..	..	..	..	27,455	..
Morrington ..	654	3,652	782	810	982	1 0	1 0	0 1½	..	..	21,409	..
Oaversham ..	1,073	4,764	941	748	1,157	1 3	0 3	..	5 per cent.	..	29,709	..
St. Kilda ..	463	1,183	230	353	1,336	1 0	0 6	..	6 per cent.	..	8,608	..
South Dunedin ..	413	4,600	958	843	1,051	1 3	0 3	0 6	..	..	20,228	..
Green Island ..	103	800	145	180	171	1 0	..	0 6	..	..	2,949	..
Mosgiel ..	967	1,400	310	330	415	1 0	..	..	..	..	7,968	..
Milton ..	265	1,210	230	220	294	1 0	..	..	..	..	5,968	..
Kaitangata ..	1,158	1,362	284	284	549	1 0	..	0 6	..	..	5,639	..
Balclutha ..	568	925	225	252	290	1 0	..	..	0 1	..	5,283	..
Lawrence ..	640	996	224	262	270	1 0	..	..	0 6	..	7,705	..
Roxburgh ..	400	431	104	72	126	1 0	..	..	..	..	1,479	..
Tapanui ..	40	470	133	120	139	1 3	..	..	..	..	2,243	..
Naseby ..	112	507	140	128	164	0 9	..	..	(¹²)	..	2,609	..

	640	540	166	155	239	1	3	0	10	0	2½	..	3,441
<i>Orromwel</i>	..	..	166	155	239	1	3	0	..	..	..	..	1,947
<i>Alexandra</i>	..	840	454	79	116	1	0	..	..	1 0	..	..	2,101
<i>Arrowtown</i>	..	390	400	108	295	1	0	..	..	(13)	..	..	5,017
<i>Queenstown</i>	..	923	750	266	176	1	0	..	0 6	..	..	..	14,226
<i>Gore</i>	..	1,150	2,200	450	592	1	0	..	..	..	..	..	3,796
<i>Mataura</i>	..	1,530	800	205	177	1	0	..	..	..	..	..	2,408
<i>Winton</i>	..	162	398	86	111	1	3	..	..	..	..	..	55,326
<i>Invercargill</i>	..	1,000	6,250	1,150	900	1	0	1 0	..	(14)	..	..	3,926
<i>North Invercargill</i>	..	1,326	900	189	242	1	0	..	1 8	..	..	..	5,886
<i>South Invercargill</i>	..	4,000	1,900	362	601	1	3	..	1 11	..	..	..	3,942
<i>East Invercargill</i>	..	121	960	175	214	1	3	..	0 9	..	..	..	1,837
<i>Avenal</i>	..	80	350	45	69	1	0	..	..	..	..	..	2,650
<i>Gladstone</i>	..	240	370	65	132	1	6	0 6	..	..	..	..	7,651
<i>Campbelltown</i>	..	2,000	1,122	290	320	1	3	..	..	..	..	..	4,334
<i>Riverton</i>	..	718	1,000	233	225	1	3	..	..	..	..	..	2,173,834
Totals	..	..	..	..	..	..	..	..	..	..	..	..	3,855,098

* On capital value.

† Charitable institutions.

(1) To consumers only.

(2) Maximum under "Municipal Corporations Act, 1886."

(3) 6d., 3d., 2d., and 1d., according to district.

(4) 2½ to 1 per cent., according to value, or 1s. 3d. per 1,000 gallons by meter.

(5) Drainage rate, 9d.

(6) 3½ per cent. on dwellings; 2 per cent. on stores, &c.

(7) 1½d., and 3d.; drainage rate, 3d.; S. Waimakariri River Board, 3½d.

(8) £1 per house and by meter.

(9) Maximum under "Municipal Corporations Act, 1886."

(10) In terms of section 325, "Municipal Corporations Act, 1886."

(11) Maximum under "Municipal Corporations Act, 1886."

(12) 2½, 3½, 6, and 7 per cent. on rateable value.

(13) 6d. in the pound where water is laid on, and 3d. where not.

(14) Maximum under "Municipal Corporations Act, 1886."

TOWN DISTRICTS, 1896-97.

Town Districts.	Population Census, April, 1896.	Number of				Amount of Rate levied in the Pound.	Capital Value of				Annual Value of Rateable Property.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.		Unoccupied Crown and Native Lands.	All Property.*			
					s. d.	£	£	£	£		
Kamo.. ..	222	74	82	94	0 3	15,087	1,350	16,437	..	..	
Helensville	564	118	100	133	0 3	..	..	..	..	2,719	
Papakura	274	72	154	202	0 4	18,550	400	18,950	..	..	
Te Aroha	672	210	315	302	1 0	..	..	..	..	4,351	
Te Awamutu	347	35	80	80	0 0	19,398	..	19,398	..	..	
Kihikihi	202	58	107	147	0 3	9,273	400	9,673	..	..	
Ngaruawahia	235	50	188	188	0 3	10,957	..	10,957	..	..	
Rotorua†	499	..	..	..	..	..	..	..	..	..	
Opotiki	641	200	180	231	0 4	29,565	..	29,565	..	..	
Waitara (Raleigh)	517	135	210	230	0 3	27,500	3,200	30,700	..	..	
Opunake	400	96	158	539	0 0	25,557	2,424	27,981	..	..	
Inglewood	658	180	150	385	0 3	25,916	..	25,916	..	..	
Normanby	396	79	101	101	1 1	13,332	..	13,332	..	..	
Stratford ‡	1,256	290	345	1,030	0 3	62,218	5,000	67,218	..	..	
Mania	471	80	161	200	0 4	26,929	150	27,079	..	..	
Waverley	442	95	90	90	0 4	20,801	..	20,801	..	..	
Lethbridge (Turakina)	251	54	48	65	0 8	..	..	..	..	1,575	
Bull's	521	123	120	174	1 0	..	..	..	..	3,620	
Halcombe	376	96	158	730	1 0	..	..	..	..	1,663	
Clyde (Waitoa)	579	120	160	272	0 3	46,574	1,690	48,264	..	..	
Taradale	807	152	135	180	0 4	73,850	..	73,850	..	..	
Ormondville	453	190	160	215	0 6	..	..	..	..	2,513	
Waipawa	764	138	134	181	0 6	..	..	..	..	6,294	
Kaikora North	301	63	101	122	1 0	..	..	..	..	2,405	
Featherston	711	109	150	190	0 3	46,005	..	46,005	..	..	
Johnsonville	493	86	87	110	0 4	45,871	..	45,871	..	..	
Havelock	365	96	95	..	0 1	17,242	..	17,242	..	..	
Amberley	437	93	93	130	0 3	27,525	..	27,525	..	..	
Southbridge	494	200	230	245	0 3	34,165	..	34,165	..	..	
Hampstead	1,214	200	311	260	0 4	54,339	..	54,339	..	..	
Tinwald	538	100	130	189	0 4	46,301	..	46,301	..	..	
Geraldine	841	170	194	250	0 3	39,660	..	39,660	..	..	
Temuka	660	155	140	310	1 1	49,330	..	49,330	..	..	
Arowhenua	739	210	229	500	0 3	22,529	..	22,529	..	..	
Allanton (Greytown)	274	105	87	92	0 4	7,052	..	7,052	..	..	
Outram	452	86	68	115	0 4	28,704	..	28,704	..	..	
Clinton	474	90	124	135	1 0	..	..	..	..	1,365	
Wyndham	483	104	100	354	1 0	..	..	..	..	2,229	
Otautau	367	82	105	105	0 3	13,438	..	13,438	..	..	
Totals	..	..	..	..	..	857,668	14,614	872,282	28,734	..	

* Exclusive of property owned by Town Boards.

† Special town district under "The Thermal-Springs Districts Act, 1881."

‡ The Board collects also County rates: ½d. general and ½d. special.

ROAD DISTRICTS, 1896-97.

County and District.	Population, Census, 1896.	Number of			Total Value of			Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
Mongonui—					£	£	£	d.
Oruaiti (1893) ..	91	19	..	..	13,534	3,646	17,180	..
Oruru (1895) ..	534	108	..	..	27,471	13,640	41,111	1
Whangaroa } No Bay of Islands } road Hokianga } dis- Hobson } tricts.								
Whangarei—								
Hikurangi ..	354	105	75	109	21,838	2,053	23,891	4
Kaurihohore ..	212	31	46	55	16,846	137	16,983	4
Kensington ..	324	20	30	31	27,135	3	27,138	4
Maungakaramea ..	227	48	102	102	23,032	1,356	24,388	4
Maunu ..	557	125	140	140	41,438	14,437	55,875	4
Otonga ..	207	52	55	57	13,301	1,846	15,147	4
Otonga East ..	246	66	78	100	15,960	8,222	24,182	4
Parua Bay ..	299	150	200	250	20,018	3,597	23,615	4
Ruarangi ..	117	19	81	92	11,455	1,191	12,646	4
Waikiekie ..	180	30	196	265	17,068	3,698	20,766	4
Waipu North ..	209	47	72	72	17,879	7,159	25,038	4
Whareora ..	101	62	78	78	6,736	600	7,336	4
Otamatea—								
Mangawai ..	272	50	80	80	20,531	4,010	24,541	4
Matakohe ..	328	81	171	171	27,049	4,756	31,805	4
Whakapirau (no Board) ..	..	..	..	..	35,000	..	35,000	..
Rodney—								
Albertland North ..	61	11	48	55	7,861	370	8,231	4
Albertland South ..	347	77	234	255	26,385	719	27,104	4
Ahuroa ..	36	12	45	48	4,446	454	4,900	4
Komokoriki ..	79	14	36	41	6,585	2,255	8,840	4
Mahurangi East ..	135	31	76	70	10,187	549	10,736	4
Mahurangi Upper ..	833	171	277	359	62,225	2,010	64,235	4
Maine ..	54	18	34	34	6,656	1,135	7,791	4
Matakana East ..	109	14	22	22	7,966	490	8,456	4
Matakana West ..	194	60	70	130	13,646	348	13,994	4
Omaha ..	337	84	158	173	21,271	11,831	33,102	4
Puhoi ..	465	116	159	296	32,372	1,508	33,880	4
Tauhoa ..	409	68	96	..	21,175	1,642	22,817	4
Wharehine ..	101	20	34	51	15,892	279	16,171	4
Waitemata—								
Kaukapakapa ..	577	90	170	317	42,377	4,687	47,064	4
Pukeatua ..	650	..	207	350	26,874	2,414	29,288	4
Whangaparaoa ..	107	22	35	41	7,403	86	7,489	4

ROAD DISTRICTS, 1896-97—*continued.*

County and District.	Population. 1896.	Number of			Total Value of			Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un- occupied Crown and Native Lands.	Property in District.	
Eden—					£	£	£	d.
Avondale ..	901	195	265	318	86,500	450	86,950	1s.
Arch Hill ..	1,557	346	281	570	91,833	..	91,833	..
Eden Terrace ..	1,604	346	301	438	86,730	..	86,730	..
Epsom ..	660	120	116	116	140,160	..	140,160	..
Mount Albert ..	1,668	254	404	437	147,564	..	147,564	..
Mount Eden ..	3,677	800	850	900	315,226	..	315,226	..
Mount Roskill ..	495	81	142	168	118,739	..	118,739	..
Mount Wellington ..	876	156	189	576	135,587	1,485	137,072	..
One-tree Hill ..	975	148	170	214	170,229	..	170,229	..
Panmure Township ..	323	78	92	132	13,386	..	13,386	..
Point Chevalier ..	591	31	38	44	30,142	79,950	110,092	..
Remuera ..	2,034	380	444	444	339,411	..	339,411	..
Tamaki West ..	382	72	93	117	88,703	..	88,703	..
Manukau—								
Awhitu ..	372	99	129	139	26,416	1,315	27,731	..
Howick Town ..	220	68	100	102	11,000	100	11,100	..
Hunua ..	230	30	135	150	20,640	200	20,840	..
Karaka ..	189	56	66	160	20,150	1,800	21,950	..
Mangere ..	854	161	156	210	151,386	7,530	158,916	..
Manurewa ..	213	56	81	114	28,450	..	28,450	..
Maraetai ..	96	22	22	33	9,274	912	10,186	..
Mauku ..	423	95	134	173	48,394	2,146	50,540	..
Maungatawhiri ..	293	44	63	88	28,431	109	28,540	..
Mercer Township ..	215	27	73	73	10,989	4,601	15,590	..
Opapeke ..	462	80	129	139	41,474	..	41,474	..
Opapeke North ..	367	94	162	211	32,829	185	33,014	..
Otahuhu ..	942	290	257	327	77,340	1,072	78,412	..
Pakuranga ..	346	64	70	94	48,270	..	48,270	..
Papakura ..	393	73	97	103	41,670	..	41,670	..
Paparata ..	407	86	116	163	37,240	998	38,238	..
Paparoa ..	107	34	65	69	14,670	..	14,670	..
Papaitoi ..	176	35	38	51	51,349	..	51,349	..
Pokeno ..	405	73	90	92	31,563	2,649	34,212	..
Pollok Settlement ..	133	20	41	41	10,693	260	10,953	..
Pukekohe East ..	884	235	250	250	77,778	..	77,778	..
Pukekohe West ..	1,104	201	222	..	116,000	..	116,000	..
Tamaki East ..	668	111	121	159	89,750	150	89,900	..
Turanga ..	209	43	61	70	21,396	270	21,666	..
Waipipi ..	827	160	260	287	88,006	..	88,006	..
Wairoa ..	859	200	190	250	81,400	..	81,400	..
Waiuku ..	454	100	184	187	59,187	1,089	60,276	..
Coromandel } No Thames } road Ohinemuri } districts.								

* On annual value.

ROAD DISTRICTS, 1896-97—*continued.*

County and District.	Population (Census, 1896).	Number of			Total Value of			Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
Piako—					£	£	£	d.
Matamata ..	231	38	53	57	87,841	9,836	97,677	1
Waitoa ..	979	236	206	270	239,447	21,558	261,005	1
Waikato—								
Cambridge ..	538	90	93	93	111,045	..	111,045	1
Kirikiriroa ..	823	150	251	251	235,997	8,352	244,349	1
Tamahere ..	202	22	38	38	60,350	5,431	65,781	1
Whangamarino ..	407	77	206	419	63,450	10,000	73,450	1 and 1
Huntly ..	844	300	196	224	67,930	..	67,930	1
Waipa—								
Newcastle ..	393	98	149	160	57,286	5,678	62,964	1
Pukekura ..	802	169	370	450	122,820	998	123,818	1
Rangiaohia ..	549	95	112	112	72,154	..	72,154	1
Tuhikaramea ..	89	18	55	55	19,200	..	19,200	1
Raglan—								
Karamu (no Board).	74	..	..	..	..	..	..	..
Onewhero ..	170	45	58	60	12,500	51	12,551	..
Pirongia ..	160	..	114	114	17,483	6,739	24,222	1
Te Akau (no Board).	51	..	..	..	..	..	..	..
Whaingaroa ..	152	..	62	62	21,457	7,685	29,142	1
Kawhia ..	No road districts.							
West Taupo ..								
East Taupo ..								
Rotorua ..								
Tauranga—								
Katikati ..	397	50	45	70	25,000	..	25,000	..
Te Puke ..	397	70	115	184	45,598	22,687	68,285	1
Te Puna ..	165	30	135	140	23,354	25,188	48,542	1
Whakatane—								
Opotiki ..	584	121	212	250	105,705	28,176	133,881	1
Whakatane ..	467	110	271	271	69,520	9,735	79,255	1
Waiapu (no road districts).								
Cook—								
Kaiti ..	565	90	156	450	59,100	2,100	61,200	1
Ngatapa ..	434	80	67	73	224,572	52,760	277,332	1
Ormond ..	461	91	91	133	64,798	..	64,798	1
Patutahi ..	582	90	140	282	195,992	8,718	204,710	1
Pouawa ..	55	40	70	105	90,000	2,387	92,387	1
Poverty Bay ..	1,087	130	130	130	137,870	20,000	157,870	1

* No rate struck. † 2d. special. ‡ And 1½d. special. § ½d., 1d., and 2d. in special districts. ¶ And 3-16d. special.

ROAD DISTRICTS, 1896-97—continued.

County and District.	Population (Census, 1886).	Number of			Total Value of			Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
<i>Cook—continued.</i>					£	£	£	d.
Taruhuru ..	51	51	51	80,600	9,505	90,105	†	
Te Arai ..	285	66	31	164,458	79,922	244,380	‡	
Waikohu ..	139	28	30	316,121	..	316,121	†	
Waimata ..	259	47	47	130,459	12,756	143,215	†	
Whataupoko ..	936	160	236	94,170	11,000	105,170	‡	
<i>Clifton (no road districts).</i>								
<i>Taranaki—</i>								
Barrett ..	372	79	78	33,759	..	33,759	‡	
Carrington ..	232	37	65	30,198	..	30,198	‡	
Egmont (1896) ..	667	115	127	66,377	8,912	75,289	‡	
Elliot ..	215	..	50	15,594	369	15,963	‡	
Frankley ..	278	55	60	26,439	..	26,439	‡	
Henui ..	391	70	78	27,121	..	27,121	‡	
Hurford, Upper ..	69	17	17	7,885	..	7,885	‡	
Mangorei ..	246	42	62	30,110	20	30,130	‡	
Moa ..	2,451	420	490	225,800	..	225,800	‡	
Oakura ..	320	50	145	33,381	8,732	42,113	‡	
Okato ..	306	57	70	43,736	5,650	49,386	‡	
Omata (1896) ..	291	49	47	32,850	..	32,850	‡	
Parihaka (1896) ..	1,187	249	279	168,948	68,476	237,424	‡	
Tataraimaka ..	126	26	34	25,202	..	25,202	‡	
Waitara West ..	851	154	160	91,028	10,671	101,699	‡	
Waiwakaiho ..	393	67	111	35,946	..	35,946	‡	
<i>Stratford—</i>								
Manganui ..	1,478	300	350	145,692	..	145,692	‡	
<i>Hawera—</i>								
Waimata ..	2,229	420	461	470,131	14,423	484,554	‡	
<i>Patea—</i>								
Kohi ..	195	30	30	50,139	..	50,139	‡	
Motoroa ..	37	15	19	24,071	1,427	25,498	‡	
Okotuku ..	144	23	23	49,455	..	49,455	†	
Patea East ..	384	65	104	120,072	41,533	161,605	†	
Patea West ..	799	170	231	186,504	8,554	195,058	†	
Wairoa ..	98	22	29	49,943	8,937	58,880	‡	
Waitotara - Momo-haki	492	113	121	109,869	9,895	119,764	‡	
Whenuakura - Waitotara	334	40	42	127,697	611	128,308	‡	
<i>Waitotara (no road districts).</i>								

* Cut out of Poverty Bay and Whataupoko districts. † No rate struck. ‡ Special, various. § Special, 3d., 5-6d.; separate areas. ¶ 3d. special. ¶¶ Special, 3d., 5d., and 2½d. ** Special, 3d., 5d., and 1-45d.

ROAD DISTRICTS, 1896-97—continued.

County and District.	Population (Census 1886).	Number of			Total Value of			Amount of Rate levied in the po-nd.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
Wanganui—					£	£	£	d.
Kaukatea ..	161	35	39	60	74,861	..	74,861	..
Kaitoke ..	537	105	86	153	113,663	..	113,663	..
Mangawhero ..	715	150	277	277	211,479	297,339	508,818	..
Purua ..	839	165	136	192	149,637	..	149,637	..
Upper Wangaehu	450	82	86	132	137,303	60,135	197,438	..
Rangitikei—								
Hunterville ..	..	150	159	190	26,649	172	26,821	..
Oroua—								
Fitzherbert ..	564	130	284	319	296,820	11,284	308,104	..
Manawatu ..	2,163	408	454	603	551,958	26,787	578,745	..
Manchester ..	3,347	720	602	1,804	877,662	20,782	898,444	..
Pohangina } No road								
Kiwitea } districts.								
Manawatu }								
Horowhenua—								
Otaki ..	1,198	224	300	740	196,936	5,808	202,744	..
Te Horo ..	405	66	137	290	174,220	7,731	181,951	..
Wirokino ..	..	850	675	1,021	660,234	17,595	677,829	..
Wairoa } No road								
Hawke's Bay } dist'cts.								
Waipawa—								
Kumeroa ..	404	100	120	238	118,554	3,000	121,554	..
Maharanga ..	344	72	69	82	64,355	..	64,355	..
Maungaata ..	249	50	53	..	73,971	625	74,596	..
Norsewood ..	1,043	161	236	250	110,984	17,659	128,643	..
Ruataniwha North	581	96	64	68	278,510	2,250	280,760	..
Takapau ..	523	71	61	70	196,416	..	196,416	..
Waipawa ..	327	53	71	85	60,605	..	60,605	..
Waipukuruan ..	816	111	102	126	298,310	..	298,310	..
Woodville ..	1,001	200	225	331	118,441	..	118,441	..
Patangata—								
Oero ..	198	27	42	42	271,253	2,240	273,493	..
Patangata ..	339	39	51	59	134,986	..	134,986	..
Porangah ..	474	42	70	112	266,511	15,373	281,884	..
Taumumu ..	228	30	23	23	457,360	30	457,390	..
Wallingford ..	244	15	22	33	300,289	..	300,289	..
Wanstead ..	121	54	54	72	110,147	10	110,157	..
Weber ..	463	77	131	157	121,793	..	121,793	..

* Special rate also levied, but amount not returned. † Special rates, 1-15d., 14d., and 16-25d. over parts of district. § Special, 9-32d. and 1d. || Special, 6-6d. and 1d. ¶ Special, 3d.

ROAD DISTRICTS, 1896-97—continued.

County and District.	Population (Census, 1896.)	Number of			Total Value of			Amount of Rate levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
Pahiatua (no road districts).					£	£	£	d.
Wairarapa North—								
Akiteo ..	453	40	41	40	240,735	..	240,735	
Castlepoint ..	657	83	86	86	294,160	..	294,160	
Eketahuna ..	2,159	..	500	1,030	244,210	11,326	255,536	
Masterton ..	2,062	380	350	438	610,964	42,110	653,074	
Mauriceville ..	1,086	262	260	291	94,283	13,575	107,858	
Upper Taueru ..	211	55	50	55	99,923	561	100,484	
Wairarapa South—								
Featherston ..	2,204	500	440	600	1,081,444	36,990	1,118,434	
Taratahi-Carterton	2,494	660	648	852	702,576	..	702,576	
Hutt—								
Makara ..	278	59	56	143	83,285	..	83,285	
Seatoun ..	175	40	59	81	26,705	..	26,705	
Sounds (no road districts).								
Marlborough—								
Awatere ..	432	65	45	70	536,760	1,700	538,460	
Omaka ..	1,617	250	368	403	279,688	..	279,688	
Pelorus ..	1,407	265	319	319	135,554	118,000	253,554	
Pictou ..	866	163	160	250	124,684	17,025	141,709	
Spring Creek ..	769	120	135	139	150,788	..	150,788	
Wairau ..	874	136	135	190	382,762	6,270	389,032	
Kaikoura (no road districts).								
Collingwood—								
Collingwood ..	1,019	286	300	880	81,126	43,500	124,626	
Takaka ..	1,405	320	297	691	122,551	..	122,551	
Waimea—								
Dovedale ..	327	48	60	60	29,393	1,360	30,753	
Motueka ..	976	200	165	125	83,768	6,585	90,353	
Moutere Upper ..	409	84	90	96	35,764	2,150	37,914	
Riwaka ..	624	130	128	190	74,104	7,120	81,224	
Stoke ..	1,244	..	205	210	214,415	6,690	221,105	
Suburban North ..	593	110	121	224	88,421	..	88,421	
Waimea West ..	422	70	70	70	78,027	..	78,027	
Buller								
Inangahua								
Grey								
Westland								
Amuri								
Cheviot (no Board).								

* 1-20d. special. † Wards Nos. 1 and 3, 1d.; No. 2, 3-16d.; No. 4, 1d. ‡ Special, various
 § Special, 1d., 1 4-5d. || 1d. special ¶ No rate struck.

ROAD DISTRICTS, 1896-97—*continued.*

County and District.	Population (Census 1896).	Number of			Total Value of			Amount of Rates levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
Ashley—					£	£	£	d.
Ashley	686	140	180	230	289,464	12,315	301,779	
Cust	771	154	135	155	123,999	..	123,999	
Eyreton	1,726	320	265	265	377,645	..	377,645	
Eyreton West ..	397	85	77	77	189,962	..	189,962	
Kowai	1,967	..	..	683	488,964	2,216	491,180	
Mandeville and Rangiora	2,488	520	424	594	574,208	6,332	580,540	
Oxford	2,213	463	475	662	335,852	2,761	338,613	
Waipara	1,227	235	271	370	1,101,194	17,600	1,118,794	
Selwyn—								
Avon	4,532	1070	1,250	1,615	565,000	..	565,000	1s. *
Courtenay	2,491	407	433	602	721,527	7,338	728,865	
Ellesmere	3,841	..	525	562	1,023,606	..	1,023,606	
Halswell	1,179	210	190	210	288,687	..	288,687	
Heathcote	2,369	460	620	642	372,630	700	373,330	
Lake Coleridge ..	141	30	37	51	211,264	1,806	213,070	
Lincoln	1,322	264	222	285	297,601	..	297,601	
Malvern	707	173	149	252	123,909	..	123,909	
Malvern East ..	628	129	164	246	116,179	..	116,179	
Malvern South ..	483	115	222	303	83,427	..	83,427	
Rakaia	889	185	181	287	311,394	361	311,755	
Riccarton	5,206	900	920	1,110	755,477	..	755,477	
Spreydon	1,278	300	329	329	130,530	..	130,530	
Springs	1,984	450	387	507	484,786	1,180	485,966	
Taitapu	376	70	60	60	95,834	..	95,834	
Templeton	2,048	400	370	500	370,850	..	370,850	
Upper Waimakariri	122	12	16	16	76,017	..	76,017	
Akaroa—								
Akaroa and Wainui	1,416	220	242	356	292,927	..	292,927	
Le Bon's Bay ..	271	60	80	80	65,822	..	65,822	
Little River ..	820	250	160	283	343,215	..	343,215	
Okain's Bay ..	567	98	105	116	92,832	..	92,832	
Pigeon Bay ..	352	50	51	65	109,893	..	109,893	
Port Levy	132	30	27	45	100,087	..	100,087	
Port Victoria ..	328	58	64	80	64,838	3,924	68,762	
Ashburton—								
Anama	69	14	17	20	39,602	..	39,602	
Ashburton Upper	1,811	350	450	550	574,385	..	574,385	
Coldstream	365	60	76	87	193,534	..	193,534	
Longbeach	1,400	200	229	319	433,571	197	433,768	
Mount Hutt	1,157	210	268	349	686,386	2,090	688,476	
Mount Somers ..	918	176	223	223	191,116	..	191,116	

* On annual value. † Special, various. ‡ Special, 3-20d. and 3-64d. § Special, 3-64d.
 ¶ 4-16d. special. †† 3d. special. ** 1-16d. special. ‡‡ Special rates—Wards No. 1, 2, and
 4, 3d.; No. 3, 3d.; No. 5, 3d.; and No. 6, 3d.

ROAD DISTRICTS, 1896-97—*continued.*

County and District.	Population (Census, 1896).	Number of			Total Value of			Amount of Rates levied in the Pound.
		Dwellings.	Ratepayers.	Rateable Properties.	Rateable Property.	Un-occupied Crown and Native Lands.	Property in District.	
Ashburton— <i>continued.</i>					£	£	£	d.
Rangitata ..	703	134	200	236	361,901	..	361,901	..
South Rakaia ..	1,558	311	337	420	487,680	..	487,680	..
Wakanui ..	1,087	187	230	230	350,661	5,874	356,535	and 10
Geraldine—								
{ Geraldine ..	2,424	460	475	556	463,340	..	463,340	..
Mount Peel ..	517	92	92	113	409,262	142	409,404	..
Temuka ..	2,268	395	485	634	646,981	5,153	652,134	..
Levels								
Mackenzie } No road districts.								
Waimate }								
Waitaki—								
Ahuriri (merged 30th July)	20	13	23	115,495	4,578	120,073	..	..
Waihemo } No road districts.								
Waikouaiti }								
Peninsula—								
Otago Heads ..	306	..	..	..	33,502	..	33,502	..
Peninsula ..	1,294	236	236	307	187,452	..	187,452	..
Portobello ..	877	174	350	360	141,864	..	141,864	..
Tomahawk ..	168	24	33	44	29,685	..	29,685	..
Taiari (no road districts.)								
Bruce—								
Balmoral ..	370	50	62	80	224,720	660	225,380	..
Inch-Clutha (Road and River) ..	420	67	67	74	66,361	..	66,361	..
Mount Stuart ..	708	115	115	130	108,930	2,230	111,160	..
Clutha								
Tuapeka } No road districts.								
Maniototo }								
Vincent }								
Lake }								
Southland—								
Invercargill (no B'd.)	1,382	..	..	..	..	..	..	..
Knapdale ..	1,391	290	256	274	256,636	..	256,636	..
Otarua ..	656	250	169	269	125,748	..	125,748	..
Oteramika ..	1,894	365	466	..	269,427	..	269,427	..
Tuturau ..	732	95	101	110	140,092	..	140,092	..
Waimumu ..	574	117	127	191	171,591	..	171,591	..
Wyndham ..	316	44	50	68	78,789	1,394	80,183	..
Wallace								
Fiord } No road districts.								
Stewart Island }								
Totals ..	..	..	..	..	38,671,999	1,655,404	40,327,403	..

COUNTIES, 1896-97.

Counties.	Area in Square Miles.	Popula- tion, Census, April, 1896.	Value of Real Property in County (including Town Districts, Road Districts, and Outlying).			Rates struck by County.	
			Rateable Property.	Unoccupied Crown and Native Lands.	Total Property.	General.	Other.
			£	£	£		
Mongonui (1895-1896)	934	1,889	133,949	58,727	192,676	½d.	
Whangaroa	160	969	36,431	27,402	63,853	1½d.	
Hokianga	972	1,909	197,139	260,014	457,153	1d.	
Bay of Islands	826	2,723	175,522	180,289	355,811	1d.	
Hobson	688	3,750	269,100	54,490	323,590	1d.	
Whangarei	928	6,847	727,663	106,439	834,102	½d.	½d. Ridings Aratapu, Kopuru, Ohahu.
Otamatea	364	2,483	236,723	38,667	275,390	½d.	½d. separate.
Rodney	566	3,464	270,001	27,792	297,793	½d.	Separate on outlying, part ½d., part ¾d.
Waitemata	613	6,762	608,876	34,374	643,250	½d.	¾d. separate in Hotoo Kiding.
Eden	43	15,940	1,764,210	81,885	1,846,095	..	¾d. separate in three ridings; ¾d. separate in five ridings.
Manukau	791	12,185	1,294,295	25,786	1,320,081	..	
Coromandel	403	4,987	133,000	91,780	224,780	1½d.	¾d. Native rate on property, value £26,807.
Thames	494	4,515	194,767	69,191	263,958	1½d.	
Ohinemuri	478	4,761	99,730	66,100	165,830	½d.	
Piako	1,095	2,705	639,453	61,227	700,680	½d.	Separate ½d., Te Aroha and Patetere Riding.
Waikato	591	2,814	538,772	23,783	562,555	½d.	½d. in Mangapiko and Hamilton; ¾d. in Pirongia outlying districts.
Waipa	282	3,584	437,285	7,076	444,361	½d.	¾d. H. and C.A.; ¾d. special, Karioi loan.
Raglan	824	1,545	280,885	124,475	405,360	½d., ½d., ½d.	
Kawhia	1,515	598	354,269		..	..	
West Taupo	1,594	156	235,997		..	..	

COUNTIES, 1896-97—continued.

Counties.	Area in Square Miles.	Popula- tion. Census April, 1896.	Value of Real Property in County (including Town Districts, Road Districts, and Outlying).			Rates struck by County.	
			Rateable Property.	Unoccupied Crown and Native Lands.	Total Property.	General.	Other.
East Taupo	2,561	252	£ 301,681	£	£	£	rd. separate, H. and O.A.; special
Rotorua	984	840	168,871	..	..	..	rd.; rd. special, Waikapu; rd.
Tauranga	577	1,622	209,478	89,596	299,074	rd.	special, Maketu; rd. special, Kati- kati Ridings.
Whakatane	3,156	1,988	272,705	411,824	684,529	rd.	Various, from rd. to rd.
Waipatu	1,121	447	308,201	153,129	456,330	rd.	rd. H. and O.A.; rd. special.
Cook ..	1,950	5,287	1,840,465	286,771	2,127,236	rd.	rd. separate, South and East Ridings;
Clifton	1,446	1,450	227,801	287,193	514,994	rd.	rd. West Riding.
Taranaki	583	9,970	978,277	128,454	1,101,731	rd.	rd. special.
Stratford	768	5,141	640,700	5,000	645,700	rd.	rd. separate, Kaipara Riding; special,
Hawera	438	6,934	1,193,688	56,947	1,250,635	rd.	rd. separate, Kaipara Riding; special,
Patea..	691	3,084	795,940	125,886	921,826	rd.	rd. separate, Kaipara Riding.
Waitotara	343	2,737	645,311	70,292	715,603	rd.	rd., rd., and rd., special, on
Wanganui	1,942	3,095	749,771	357,474	1,107,245	rd.	special rating districts.
Rangitikei	852	6,030	1,526,836	131,471	1,658,307	rd.*	Special, rd. Otara; separate rd. Kim- bolton and Waituna, rd. Hautapu,
Kiwitea	336	2,428	628,384	..	628,384	rd.	rd. Aiti and Makino Ridings.
Oroua	394	6,450	1,754,157	58,753	1,812,910	..	

* rd. on Native lands in occupation of Natives.

Pohangina Manawatu	295 267	1,351 2,709	294,175 783,398	294,175 783,078	1½d. 1½d. 1d. ½d.	Special, 1½d. Separate, ½d. Mt. Stewart; ½d. Camp- bell, Carnarvon, Waitohi, and Kawa- kawa; and ½d. Sandon and Awahou Ridings. Special, various, from ½d. to ½d. Special, ½d. on whole county, and ½d. and ½d. on part.
Horowhenna	591	3,792	1,031,390	1,062,524	½d. and ½d.	Special, 0-113d., 0-756d., ½d., and ½d. ½d. Harbour Board levy.
Wairoa	1,887	1,430	751,446	906,175	½d.	Various.
Hawke's Bay	3,232	6,894	3,476,970	3,735,939	½d.	Various, special and separate.
Waipawa	1,154	8,866	2,173,257	2,281,439	½d., 1½d. +	Separate, 1½d., H. and C.A.
Patangata	747	2,374	1,702,423	1,720,076	½d.	Special, ½d.
Pahiaua	302	3,208	552,677	552,677	1½d.	Separate, 1½d., H. and C.A.
Wairapa N.	1,443	7,209	1,841,523	1,927,970	1½d., ½d., and ½d. +	Special, ½d.
Wairapa S.	1,281	5,409	1,830,025	1,887,015	..	Separate, 1½d., H. and C.A.
Hutt ..	590	5,750	1,026,125	1,087,661	½d. and ½d.	Special, ½d.
Sounds	573	747	171,005	..	..	Special, ½d.
Marlborough	3,812	6,330	1,627,428	1,770,423	..	Special, ½d.
Kaikoura	673	1,575	303,514	310,855	..	½d. separate, H. and C.A., and 1½d. on Stoke Riding; ½d. special in special rating district.
Collingwood	1,029	2,509	214,637	258,137	½d.	Special, ½d.
Waimea	1,662	8,591	1,063,774	1,087,679	½d.	Special, ½d.
Buller	1,818	4,833	298,140	638,466	1½d.	Special, ½d.
Inangahua	2,256	4,254	563,446	1,034,580	1½d., 1d. §	Special, ½d.
Grey ..	1,452	4,592	395,555	703,053	1½d.	Special, ½d.
Westland	4,420	4,723	178,000	1,202,597	1½d.	Special, ½d.
Amuri	2,362	916	619,514	619,514	½d.	Special, ½d.
Cheviot	322	1,042	496,326	496,326	½d.	Special, ½d.
Ashley	1,627	11,913	3,508,813	3,550,037	..	Special, ½d.
Selwyn	2,597	30,090	6,062,883	6,074,268	..	Special, ½d.
Akaroa	353	8,886	1,069,614	1,073,538	..	Special, ½d.
Ashburton	2,542	10,820	3,419,476	3,427,637	½d.	Special, ½d.
Geraldine	935	7,499	1,631,102	1,636,397	½d.	Special, ½d.
Ivels	273	7,723	1,284,966	1,284,966	1d.	Special, ½d.
Mackenzie	2,537	1,514	735,613	745,467	½d.	Special, ½d.

* Pohangina, Awatere, Coal Creek, Temaki, and Manapikitopiko Ridings, ½d.; Mangone Riding, ½d.; Umotoi Riding, ½d.
 ½d., county; ½d., Whareama outlying, ½d., Alfredton District. § ½d. on mining property; 1d. on other.

† Outlying.

COUNTIES, 1896-97—continued.

Counties.	Area in Square Miles.	Population, Census, April, 1896.	Value of Real Property in County (including Town Districts, Road Districts, and Outlying).			Rates struck by County.	
			Rateable Property.	Unoccupied Crown and Native Lands.	Total Property.	General.	Other.
Waimate	1,343	4,777	£ 2,253,902	£ 16,807	£ 2,270,709	10d.	1d., 1d., 1d., and 1d., separate.
Waikato	2,333	8,876	2,821,007	32,078	2,853,085	1d. to 1d.	
Waikato	336	2,148	375,689	2,621	378,310	1d.	
Waikouaiti	318	4,389	460,000	20,000	480,000	1d.	
Peninsula	37	2,645	392,503	..	392,503	..	
Tairā	980	6,950	1,223,588	2,765	1,226,353	1d.	Special, 1d. H. and C.A.; 1d. Henley Drainage District.
Bruce	503	4,838	945,572	8,171	953,743	1d. and 1d.*	1d. separate, H. and C.A.; 1d. Matau Riding and outlying; special vari- ous.
Clutha	946	6,564	1,014,292	60,200	1,074,492	1d.	1d. separate, H. and C.A.; special, 1d. Richardson Riding; 1d. South Moly- neux Riding; and 1d. Clinton Riding.
Tuapeka	1,365	6,477	820,766	48,000	868,766	1d.	1d. and 2d., special.
Maniototo	1,239	3,742	499,182	..	499,182	1d.	
Vincent	2,684	4,090	488,146	40,000	528,146	1d.	
Lake ..	3,712	2,663	298,085	38,128	336,213	1d.	
Southland	3,852	21,603	3,497,849	1,394	3,499,243	1d.	1d. separate, H. and C.A.; 1d. special.
Wallace	3,404	6,657	1,205,130	144,934	1,350,064	1d.	1d. separate, H. and C.A.; 1d. in four ridings.
Fiord ..	3,040	151	..	78,000	..	1d.	1d. separate, H. and C.A.
Stewart Island..	651	244	7,073	..	85,073	1d.	
Totals	..	..	74,528,519	7,396,844	81,925,363	..	
			1,231,418†		83,156,776	..	

* 1d. outlying; 1d. road district.

† Aggregate value in counties where there are no local governing bodies, and consequently the respective values of private and other property cannot be distinguished.

SECTION IX.—METEOROLOGY.

TEMPERATURE, RAINFALL, ATMOSPHERIC PRESSURE, AND WIND,
THROUGHOUT NEW ZEALAND, AS OBSERVED AT NINE
STATIONS, FOR THE YEAR 1897.

(From Tables prepared by Sir James Hector.)

THE OBSERVATIONS WERE TAKEN AT 9 A.M.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest.	Wet Days.	Fall.		
Auckland (lat. 36° 50' S.; long. 174° 50' 40" E.; alt. 125 ft.).	° Fahr.	° Fahr.	No.	Inches.	Inches.	
January	78.0	55.0	12	5.580	30.060	NE, SW.
February	82.0	56.0	15	5.380	29.980	NE, SW.
March	79.0	49.0	12	3.290	29.980	SE, SW, NW.
April	75.0	45.0	9	2.120	30.030	NE, SW.
May	70.0	40.0	19	6.030	30.020	S, SW.
June	64.0	40.0	17	3.700	30.230	S, SW.
July	61.0	40.0	25	5.230	29.990	S, SW.
August	63.0	42.5	18	4.610	30.060	SE, SW, NW.
September	66.0	42.5	20	4.150	29.930	SW, NW.
October	66.0	45.0	22	3.630	29.900	SW, W.
November	79.0	44.0	13	1.511	29.980	SW, NW.
December	77.0	46.0	5	0.130	30.120	S, SW.
Rotorua (lat. 38° 9' S.; long. 176° 15' E.; alt. 990 ft.).						
January	87.5	39.2	11	11.630	30.140	N, SW.
February	93.5	40.5	17	12.140	30.100	N, SW.
March	82.0	35.0	16	6.210	30.050	S, SW.
April	71.0	35.0	8	5.850	30.140	SW, W.
May	68.0	26.5	16	7.130	30.100	SW, W.
June	60.0	26.5	13	2.350	30.360	SW, S.
July	60.0	28.0	19	7.140	30.020	SW, W.
August	60.5	28.5	15	4.180	30.170	SE, SW.
September	67.8	31.0	14	5.390	30.060	SW, W.
October	68.0	31.8	21	5.300	29.970	SW, W, NW.
November	85.5	32.2	13	3.020	30.060	SW, W.
December	88.0	34.0	4	0.450	30.250	N, SW.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest	Wet Days.	Fall.		
New Plymouth (lat. 39° 3' 35" S.; long. 174° 4' 58" E.; alt. 100 ft.).						
	° Fahr.	° Fahr.	No.	Inches.	Inches.	
January	82.0	46.0	12	4.730	29.950	NE, SE.
February	82.0	50.0	13	12.160	29.800	NE, SE.
March	80.5	48.0	14	6.400	29.780	NE, SE.
April	75.0	41.0	10	3.070	29.930	NE, SE.
May	72.0	35.0	19	9.490	29.900	SE, SW.
June	69.0	32.0	11	2.470	30.167	NE, SE.
July	68.0	33.0	18	7.930	29.800	SE, SW.
August	67.0	34.5	14	4.560	30.010	NE, SE.
September	67.0	36.5	19	5.520	29.800	NE, SE.
October	69.0	39.0	23	10.130	29.730	NE, SW.
November	71.0	40.5	18	5.180	29.870	NE, SW.
December	77.0	38.0	5	0.890	30.080	NE, SE.
Wellington (lat. 41° 16' 25" S.; long. 174° 47' 25" E.; alt. 140 ft.).						
January	81.0	45.0	11	8.046	29.964	SE, NW.
February	76.0	45.5	16	5.018	29.963	SE, NW.
March	75.5	41.7	16	2.061	29.894	SE, NW.
April	67.5	40.0	14	6.915	29.976	SE, NW.
May	65.5	35.0	13	1.972	29.879	W, NW.
June	60.0	36.0	15	2.425	30.201	S, NW.
July	62.0	31.0	21	3.306	29.795	SW, NW.
August	61.5	35.0	21	4.009	30.023	SE, NW.
September	65.0	39.0	18	6.158	29.840	SE, NW.
October	65.0	38.0	20	5.510	29.648	SE, NW.
November	66.3	39.0	12	2.351	29.757	NW.
December	76.8	42.0	7	0.724	30.057	SE, NW.
Levin, State Farm (lat. 40° 38' S.; long. 175° 12' E.; alt. 80 ft.).						
January	83.2	42.0	7	4.350	29.400	SW, NW.
February	80.0	42.0	14	4.880	29.390	S, SW, NW.
March	78.0	33.5	13	5.180	29.500	SW, NW.
April	68.5	33.0	10	3.290	29.810	S, W, NW.
May	67.6	26.0	13	2.120	29.820	S, W.
June	61.5	26.0	8	2.240	30.240	NE, W.
July	57.6	28.6	21	4.830	29.940	NE, W.
August	60.5	27.0	10	2.320	30.060	S, NW.
September	64.2	34.0	19	3.190	29.680	NW, W, S.
October	69.0	31.0	20	5.610	29.460	W, NW.
November	71.0	33.4	15	4.000	29.530	W.
December	77.0	32.0	6	0.530	29.510	W, S.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest.	Wet Days.	Fall.		
Lincoln, Canterbury (lat. 43° 32' 16" S.; long. 172° 38' 59" E.; alt. 65 ft.).	° Fahr.	° Fahr.	No.	Inches.	Inches.	
January	88·4	39·6	5	0·477	29·869	NE, NW.
February	79·8	42·6	13	2·728	29·985	NE, SW.
March	79·8	36·8	10	1·887	29·866	NE, SW.
April	77·0	33·0	6	0·520	29·924	NE, SW.
May	74·2	27·1	8	1·455	29·835	SW, NE.
June	65·8	24·6	4	0·411	30·189	NE, W.
July	63·4	23·1	4	0·159	29·745	NE, SW.
August	61·9	24·8	15	2·006	30·074	NE, SW.
September	69·6	32·8	9	1·023	29·796	NE, SW.
October	73·8	34·2	11	1·388	29·568	SW, NW.
November	85·6	33·5	11	1·598	29·643	NE, NW.
December	83·7	31·8	7	0·828	30·014	NE, S.
Hokitika (lat. 42° 41' 30" S.; long. 170° 59' E.; alt. 12 ft.).						
January	84·0	45·5	15	8·130	29·949	SW, NW.
February	84·0	44·5	7	6·670	30·030	SW, NW.
March	81·0	39·0	18	17·200	29·841	E, SW, NW.
April	68·0	35·0	11	7·100	29·983	E, SW.
May	68·5	28·5	19	10·860	29·906	E, SW.
June	59·0	29·0	13	8·020	30·202	E, NW.
July	58·5	27·0	19	10·360	29·793	E, SW.
August	60·5	30·0	6	3·850	29·989	E, SW.
September	64·0	32·5	14	7·460	29·823	SW, NW.
October	66·0	36·0	23	26·670	29·621	SW, NW.
November	65·0	36·0	21	18·720	29·831	SW, NW.
December	70·0	41·0	7	3·790	30·094	SW, NW.
Dunedin (lat. 45° 52' 11" S.; long. 170° 31' 7" E.; alt. 300 ft.).						
January	83·0	41·0	8	2·656	29·817	SW, W.
February	75·0	40·0	13	1·598	29·912	NE, SW.
March	77·0	41·0	13	4·170	29·786	SW, W.
April	74·0	38·0	9	1·390	29·872	SW, W.
May	67·0	31·0	16	3·158	29·748	NE, SW.
June	60·0	33·0	10	0·420	30·064	NE, SW.
July	55·0	31·0	10	1·350	29·657	NE, SW.
August	66·0	28·0	13	5·028	29·957	NE, SW.
September	67·0	36·0	14	3·998	29·699	NE, W.
October	63·0	34·0	19	8·950	29·501	NE, SW.
November	82·0	38·0	16	3·648	29·519	SW, W.
December	75·0	38·0	11	1·744	29·963	SW, NW.

Stations and Months.	Temperature in Shade.		Rainfall.		Mean Height of Barometer.	Prevailing Wind.
	Highest.	Lowest.	Wet Days.	Fall.		
Chatham Islands (lat. 43° 52' S.; long. 176° 42' W.; alt. 100 ft.).	° Fabr.	° Fabr.	No.	Inches.	Inches.	
January	69·0	39·0	9	1·850	29·950	N, NW.
February	67·0	35·0	9	1·670	29·910	SW, NW.
March	68·0	43·0	13	2·680	29·790	N, SW.
April	66·0	37·0	11	2·710	29·810	SW, NW.
May	62·0	36·0	14	2·460	29·650	SW, NW.
June	56·0	32·0	18	1·030	29·930	SW, NW.
July	56·0	32·0	24	2·960	29·540	N, SW.
August	56·0	33·0	14	1·810	29·930	SE, SW.
September	57·5	33·0	23	2·030	29·750	E, S, SW.
October	60·0	34·0	18	1·630	29·480	SW, NW.
November	64·0	38·0	19	1·290	29·650	SW, NW.
December	64·0	38·0	13	1·360	29·890	SW, NW.

NINE STATIONS: COMPARATIVE TABLE; YEAR 1897.

Auckland	82·0, 2, 17 Feb.	40·0, 24 May, 21 June, 3 July	187	2·780, 30 Jan.	30·023	SW, NE.
Rotorua	93·5, 3 Feb.	26·5, 23 May, 19, 20, 26 June	167	7·180, 30 Jan.	30·118	SW, W.
New Plymouth	82·0, 13 Jan., 1 Feb.	32·0, 21 June	176	4·430, 28 May	29·901	SE, NE.
Wellington	81·0, 12 Jan.	31·0, 20 July	184	3·200, 15 Jan.	29·916	NW, SE.
Levin	83·2, 18 Jan.	26·0, 24 May, 9 June	156	2·530, 25 Mar.	29·695	W, NW.
Lincoln, Canterbury	88·4, 13 Jan.	23·1, 21 July	103	1·197, 4 Nov.	29·875	NE, SW.
Hokitika	84·0, 13 Jan., 24 Feb.	27·0, 20 July	173	5·160, 21 Oct.	29·921	SW, E.
Dunedin	83·0, 12 Jan.	28·0, 5 Aug.	152	2·100, 28 Nov.	29·791	SW, W.
Chatham Islands	69·0, 19, 20 Jan.	32·0, 1 June, 30 July	185	1·500, 21 Mar.	29·773	SW, NW.

A table compiled from information published in the Statistical Abstract for the Colonial Possessions of the United Kingdom shows the shade temperature for each month in New Zealand and other British Colonies. The figures given are the means of four years. (H signifies highest, and L lowest):—

British Possessions (Stations and Height in Feet above Sea Level where known).		Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Year.	
		H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.
New Zealand—																											
Wellington (140) ...	...	78	45	78	47	76	44	70	43	66	38	62	34	59	33	62	34	63	37	60	41	74	33	75	44	78	33
Queensland—																											
Brisbane (130) ...	...	92	64	93	63	91	61	85	54	80	50	70	42	75	39	78	41	85	40	94	50	94	57	97	61	97	39
New South Wales—																											
Sydney (155) ...	...	92	59	89	38	84	59	79	51	72	48	67	44	63	39	70	42	77	45	88	48	87	54	94	57	94	39
Victoria—																											
Melbourne (91) ...	...	101	48	99	47	99	45	86	40	74	37	64	37	62	32	68	34	74	34	81	40	94	44	96	45	101	32
South Australia—																											
Adelaide (140) ...	...	108	49	106	50	100	48	89	45	78	40	67	38	65	36	74	39	79	41	86	41	96	45	101	48	108	36
Western Australia—																											
Perth (37) ...	...	107	50	102	53	98	52	90	57	81	40	70	38	70	37	73	38	80	42	83	42	93	48	100	51	107	37
Tasmania—																											
Hobart (160) ...	...	91	45	94	45	93	44	75	38	71	37	61	34	59	33	68	33	72	35	77	35	92	40	86	43	94	33
Natal—																											
Durban (150) ...	...	99	63	95	61	94	60	91	58	89	52	86	49	88	48	91	49	96	50	91	53	97	57	98	50	99	49
Cape Town—																											
Royal Observatory (37) ...	...	94	54	94	51	92	49	86	45	80	42	76	39	74	37	76	37	83	39	86	44	89	48	90	52	94	37
Hongkong—																											
Observatory (110) ...	...	73	47	78	46	77	49	84	58	89	68	91	73	91	74	91	74	92	70	90	66	82	55	79	49	91	46
Straits Settlements																											
Singapore (30) ...	...	88	70	90	70	91	71	91	73	90	73	90	72	90	72	89	72	89	71	89	71	89	71	89	70	91	70
Mauritius—																											
Royal Alfred Observatory (179) ...	...	84	69	84	71	84	70	82	70	80	62	77	60	75	59	75	59	77	62	80	62	82	66	84	68	84	59
Canada—																											
Toronto (350) ...	...	47	3	45	3	51	6	71	92	78	31	86	44	88	46	89	47	82	41	71	27	56	13	45	1	89	3
Montreal (137) ...	...	45	14	42	13	44	0	69	24	61	32	87	43	88	50	86	50	81	39	70	27	59	11	43	11	88	13
St. John (N.B.) (116) ...	...	49	7	46	7	47	4	82	22	69	33	81	49	79	49	77	48	73	37	60	26	56	16	49	3	81	7
Halifax (122) ...	...	50	1	46	8	50	1	63	22	73	32	83	39	84	48	84	49	80	30	60	21	51	3	84	3	84	3
Charlottetown, Prince Edward Island (38) ...	...	47	6	43	9	47	5	60	20	70	31	77	39	80	49	79	49	75	39	64	30	58	19	47	1	80	0
Winnipeg, Manitoba (764) ...	...	34	27	32	37	49	25	76	8	82	90	90	35	87	40	91	34	86	30	73	17	53	16	39	29	91	37
Victoria, British Columbia (10) ...	...	51	14	55	24	60	30	67	29	73	38	76	39	70	43	76	41	71	34	64	35	55	30	51	23	79	14
St. John's, Newfoundland (25) ...	...	48	6	50	4	50	11	61	15	71	27	76	33	81	41	79	42	78	33	65	24	62	19	51	9	81	8
Barbados—																											
Joes River (430) ...	...	81	67	81	67	83	69	84	70	84	71	85	72	84	70	85	70	85	71	85	71	84	70	83	69	85	67
Bahamas—																											
Military Hospital																											
Jamaica—																											
Amston (80) ...	...	91	63	90	63	90	62	91	68	91	70	92	71	95	71	93	73	92	70	93	69	91	67	90	63	95	62
Trinidad (130) ...	...	86	67	87	68	88	69	88	70	89	70	86	71	86	71	86	70	89	70	88	70	87	70	87	85	89	67

SECTION X.—MANUFACTORIES AND WORKS.

COMPARISON OF TOTAL RESULTS, 1896, 1891, 1886.

THE results of the compilation of the special returns, relating to the various manufactories, works, &c., in the colony are compared with those shown for each of the two previous censuses in the statement given further on.

It must be remembered that, while all establishments or works are included which are of the nature of a factory, employing a number of persons, using some kind of machinery or plant, and probably steam- or water-power, the smaller establishments, where only a few persons may be engaged in making articles for retail disposal, or in repairs, as a general rule are kept out of the tables, which do not therefore give the value of all the work done in such matters as boot and shoe, general clothing, and furniture making, &c. But, though it is not easy to settle in all cases what to put in and what to leave out, it can be fairly well done, and quite sufficiently so to admit of reliable comparisons being given of different census results, so as to afford a just idea of the development or otherwise of the various branches of industry. The totals for the industries do not include mining and quarrying, which are dealt with separately.

The annual value of all manufactures increased between 1890 and 1895 by the sum of £775,523, while the increase for the previous quinquennium was as great as £2,062,458. But a moderate increase in money signifies, in respect of some items, a greater increase in production. The increases of quantity are stated in the special tables for the more important industries. It will be found that generally these increases are very satisfactory where the industries are such as meat-freezing, butter- and cheese-making, sawing of timber, and others which depend directly on work done upon the lands which are being developed; but in regard to some of the smaller manufacturing industries carried on in the towns the development is not always great, and in some cases these have retrograded.

The development of the butter- and cheese-making industry by way of factory work has helped greatly to make up the total increase shown since 1890; on the other hand, the decline of the flax- and grain-milling has operated unfavourably on the comparison for the years 1890 and 1895.

The great rise of the meat-freezing industry happened between 1885 and 1890, and this large increase, representing in money no less than £920,781, is probably the principal cause of the increase

for the whole of the manufactures being so much greater for the period 1885-90 than for 1890-95; but there is also, amongst many other causes, the fact that flax-milling was prosperous in 1890 (showing an increase over 1885 amounting to £214,207), but in 1895 in a state of the utmost depression, the value of the product of the mills being only £32,546, against £234,266 in 1890.

MANUFACTORIES AND WORKS, 1896, 1891, 1886.

	April, 1896. No.	April, 1891. No.	March, 1886. No.	Increase, 1891-96. No.	Increase, 1886-91. No.
Number of establishments*	2,459	2,254	1,946	205	308
Hands employed—					
Males	22,986	22,664	19,601	322	3,063
Females .. .	4,403	2,969	2,494	1,434	475
Totals* ..	<u>27,389</u>	<u>25,633</u>	<u>22,095</u>	<u>1,756</u>	<u>3,538</u>
Wages paid—	Year 1895. £	Year 1890. £	Year 1885. £	Increase, 1890-95. £	Increase, 1885-90. £
To Males ..	1,776,076	1,705,641	†	70,435	†
„ Females ..	181,516	102,999	†	28,517	†
Totals* ..	<u>1,907,592</u>	<u>1,808,640</u>	<u>†</u>	<u>98,952</u>	<u>†</u>
Horse-power	H.-p. <u>28,096</u>	H.-p. <u>21,696</u>	H.-p. <u>15,491</u>	H.-p. <u>6,400</u>	H.-p. <u>6,205</u>
	£	£	£	£	£
Total approximate value of manufactures or produce* }	9,549,360	8,773,837	6,711,379	775,523	2,062,458
Total approximate value of:-					
Land	1,069,969	1,286,735	1,477,996	-222,746	-191,261
Buildings ..	1,743,073	1,483,302	1,446,082	259,171	37,820
Machinery and plant	2,988,955	2,491,489	2,172,552	497,766	315,337
Totals* ..	<u>5,796,017</u>	<u>5,261,826</u>	<u>5,096,630</u>	<u>594,191</u>	<u>164,896</u>

Under the heading "Hands employed," the males increased from 19,601 in 1886 to 22,986, or at the rate of nearly 18 per cent. in ten years; but the numerical increase was higher between 1886 and 1891 than from 1891 to 1896. On the other hand, the females employed increased in number between 1891 and 1896 far more than in the previous period, the increase for 1891-96 being at the rate of 48 per cent., and only 19 per cent. for 1886-91, or 77 per cent. for ten years.

* Omitting Government Railway Workshops and Government Printing Office.

† No information available.

No attempt was made in 1886 to obtain any account of the wages paid in the factories or large industrial works dealt with in the census returns. But in 1891 the total amount returned for the year 1890 was £1,808,640, and for 1895 the sum was £1,907,592, an increase of £98,952 in the annual payment, or 5·47 per cent.

The average annual amount of wages paid to male hands was £77·27 in 1895 and £75·26 in 1890. For females, £29·87 in 1895 against £31·69 at the previous census. The wages of males would seem to have been more than maintained. In regard to females, possibly a larger proportion of girl labour may have been employed in 1895 than in 1890, which would tend to lower the average rate for females of all ages.

The increase for the year 1896 over 1891 in the horse-power stated in the returns was 6,400, against 6,205 for 1891, over that for 1886.

The approximate value of the land used for purposes of the factories and industries retired from £1,477,996 in 1886 to £1,286,735 in 1891, and, further, to £1,063,989 in 1896. The value of the lands used for mining is not included in the above figures, and the value of Crown lands has been omitted throughout.

A very satisfactory development will be found in the value of the machinery and plant, from £2,172,852 in 1886 to £2,988,955 in 1896, being at the rate of 14·65 per cent. for the period 1886-91, and 19·98 per cent. for 1891-96. The value of the buildings also increased.

INDUSTRIES IN PROVINCIAL DISTRICTS.

The values of the manufactures for the provincial districts, as returned for 1895 and 1890, were respectively as follow :—

				Value of Manufactures, excluding Mines and Quarries.	
				1895.	1890.
Canterbury	..	..	..	2,629,822	2,056,412
Auckland	..	..	..	2,163,759	2,184,401
Otago	..	..	..	2,153,473	2,078,365
Wellington	..	..	..	1,475,517	1,412,465
Hawke's Bay	..	..	..	507,954	525,394
Taranaki	..	..	..	330,886	155,772
Nelson	..	..	..	142,109	146,020
Marlborough	..	..	..	89,748	161,714
Westland	..	..	..	56,092	53,294

DETAILS OF THE PRINCIPAL INDUSTRIES.

The principal industries returned at the census of 1896, and particulars relating thereto, are given in detail in the following table. These industries are arranged in classes according to their nature :—

DETAILS OF THE PRINCIPAL INDUSTRIES.

Nature of Industries.	Total Number of Industries.	Number of Hands employed.			Wages paid.			Amount of Power employed (Horse-power).	Value of all Manufactures or Products (including the value of all raw materials) for the Year 1895.	Approximate Value of Land, Buildings, and Plant.
		Males.	Females.	Total.	£	To Males.	To Females.	Total.	£	£
Meat-freezing and preserving works	30	1,908	52	1,960	175,521	40,890	..	40,890	1,615,219	697,436
Fish-curing and preserving works..	27	74	1	75	3,223	18,801	1,355	20,156	10,292	9,729
Bacon-curing establishments ..	37	118	5	123	7,314	80	7,394	..	86,022	22,518
Butter and cheese factories*	170	548	28	576	39,716	441	40,157	1,531	501,274	234,006
Grain mills ..	90	419	..	419	40,890	..	..	40,890	874,656	355,847
Biscuit factories ..	17	345	80	425	18,801	1,355	20,156	134	118,979	58,866
Fruit preserving and jam-making works ..	22	103	90	193	5,101	1,450	6,551	77	36,108	18,867
Sugar-boiling and confectionery works ..	12	39	80	69	2,253	561	2,814	21	33,235	8,925
Baking-powder factories..	10	16	3	19	661	201	862	..	10,153	10,155
Breweries ..	85	465	..	465	57,327	..	..	441	386,734	230,416
Malthouses ..	31	95	..	95	9,398	..	..	59	82,096	37,504
Colonial wine factories ..	19	41	12	53	1,925	95	2,020	6	8,963	12,832
Arated-water factories ..	132	330	17	347	21,184	251	21,435	216	98,609	89,344
Coffee and spice works ..	18	107	12	119	7,166	293	7,459	82	74,339	31,095
Sauce and pickle factories ..	24	44	24	68	1,835	622	2,457	57	13,417	11,909
Soap and candle works ..	22	187	3	190	16,832	21	16,903	252	162,298	58,826
Bone mills ..	15	46	..	46	2,069	..	..	220	12,246	9,449
Sausage-skin and violin string factories ..	6	56	..	56	3,754	..	..	..	13,472	1,500
Rolling-down works ..	13	77	..	77	4,930	..	..	166	37,056	13,615

* In connection with these were 105 creameries, particulars relating to which are included.

DETAILS OF THE PRINCIPAL INDUSTRIES—continued.

Nature of Industries.	Total Number of Industries.	Number of Hands employed.			Wages paid.			Amount of Power employed (Horse-power).	Value of all Manufactures (including Re-fractories) for the Year 1905.	Approximate Value of Land, Buildings, and Plant.
		Males.	Females.	Total.	To Males.	To Females.	Total.			
Cooperages	21	76	..	76	£ 4,250	£ ..	£ 4,250	H.-p. 110	19,233	11,175
Sawmills, sash-and-door factories	299	4,055	4	4,059	323,223	..	323,223	6,409	898,807	586,422
Woodenware factories ..	19	81	..	81	4,147	..	4,147	124	18,276	13,427
Chaff-cutting establishments ..	52	212	..	212	7,847	..	7,847	344	78,497	42,378
Paper bag and box factories ..	9	41	45	86	2,299	852	3,151	15	7,698	7,950
Gasworks .. .	27	293	2	295	37,747	102	37,849	126	199,025	766,673
Lime and cement works ..	14	79	..	79	5,560	..	5,560	289	15,881	22,419
Brick, tile, and pottery works ..	108	454	1	455	28,179	50	28,229	519	66,140	76,585
Tinware factories ..	34	288	1	289	19,742	..	19,742	27	63,723	25,849
Iron and brass foundries, boiler making, machinists, &c.* ..	90	1,639	3	1,642	129,699	64	129,763	1,093	302,815	252,135
Heel and toe-plate factories ..	4	9	..	9	460	..	460	19	1,850	2,371
Spouting and ridging factories ..	9	90	..	90	5,758	..	5,758	24	23,762	19,729
Lead-headed nail works ..	7	10	2	12	464	30	494	5	2,834	2,325
Printing establishments† ..	154	2,123	228	2,351	204,165	12,137	216,302	532	389,124	396,915
Musical instrument factories ..	5	15	..	15	1,080	..	1,080	4	2,282	6,070
Basket and perambulator factories	17	67	9	76	3,380	219	3,679	5	11,920	10,850

DETAILS OF THE PRINCIPAL INDUSTRIES.

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Agricultural implement factories..	34	581	..	581	44,581	..	793	44,581	217	102,054	71,267
Brush and broom factories ..	15	62	30	92	3,937	..	793	4,730	20	23,363	9,005
Coach-building and painting works	116	807	..	807	57,377	..	..	57,377	119	148,969	105,862
Cycle factories ..	19	125	..	125	5,952	..	..	5,952	33	18,817	24,881
Saddlery and harness factories ..	23	249	17	266	15,375	529	529	15,304	..	63,735	34,559
Tanning, fellingmongering, and wool-scouring establishments ..	117	1,623	6	1,629	116,715	268	268	116,963	686	1,237,252	171,405
Ship- and boat-building yards ..	40	108	..	108	6,724	..	..	6,724	49	25,233	14,238
Graving-docks and patent slips ..	6	23	..	23	2,785	..	..	2,785	435	5,422	331,806
Sail and oilskin factories ..	89	92	51	143	5,660	1,361	1,361	7,021	..	30,166	23,623
Furniture factories ..	71	472	24	496	33,257	787	787	34,044	127	85,327	34,673
Chair and wash-board factories ..	6	8	..	8	272	..	..	272	2	1,277	2,020
Venetian-blind works ..	15	45	..	45	2,588	..	..	2,588	14	9,878	7,236
Matrass factories ..	5	15	..	15	593	..	..	593	..	1,850	2,680
Chemical works ..	7	112	2	114	9,104	62	62	9,166	121	75,320	44,471
Hamatite-paint factories ..	5	11	1	12	407	12	12	419	45	1,508	3,015
Sheep-dip factories ..	6	27	2	29	1,230	..	..	1,230	17	9,138	2,716
Herbal-remedy factories..	4	8	2	10	320	50	50	370	..	2,265	3,410
Woolen mills ..	9	655	761	1,416	59,583	32,086	32,086	91,619	1,400	302,423	223,473
Flock mills ..	5	10	..	10	264	..	..	264	44	1,705	2,570
Cleaning and dyeing works ..	16	33	25	58	1,506	705	705	2,211	31	7,530	9,980
Clothing, and boot and shoe factories	92	2,059	2,348	4,407	145,693	64,770	64,770	210,463	131	616,158	166,739
Hat and cap factories ..	15	31	41	72	2,437	1,117	1,117	3,554	6	10,902	10,560
Stocking-weaving factories ..	7	1	132	133	25	2,516	2,516	2,541	3	9,337	4,565
Waterproof factories ..	4	15	78	93	1,344	2,540	2,540	3,884	2	22,854	5,316
Rope and twine works ..	24	150	..	150	6,840	..	..	6,840	280	52,400	40,961
Flax mills ..	52	645	2	647	17,544	..	..	17,544	577	32,546	31,359
Other industries ..	58	463	229	692	35,977	4,739	4,739	40,716	1,122	435,381	207,569
Totals ..	2,459	22,986	4,433	27,389	1,776,076	131,516	131,516	1,907,592	28,096	9,549,360	5,796,017

* Not including the Government Railway Workshops. † Not including the Government Printing Office.

The succeeding statement shows the most important industries in operation in 1896, ranged in order of the values of their output for 1895, and compared with the results obtained for 1890 and 1885:—

	Total Value of all Manufactures or Produce, including Repairs.		
	1895.	1890.	1885.
	£	£	£
Meat-freezing and preserving and boiling-down works	1,652,275	1,464,659	543,878
Tanning, fellmongering, and woolscouring ..	1,237,252	1,026,349	634,915
Sawmills	893,807	832,959	1,177,718
Grain mills	874,656	991,812	754,830
Clothing and boot-and-shoe factories ..	616,158	570,315	514,506
Butter and cheese factories	501,274	150,957	43,094
Breweries and malthouses	418,830	380,849	421,197
Printing establishments (not including Government Printing Office)	389,124	354,559	273,886
Iron and brass foundries, boilermaking, machinists, &c. (not including Government Railway Workshops)	302,815	403,635	368,919
Woollen mills	302,423	279,175	194,311
Gasworks	199,025	178,947	194,653
Soap and candle works	152,298	155,714	130,745
Coach-building and painting works	148,969	139,660	128,346
Biscuit factories	118,979	127,147	47,784
Agricultural implement factories	102,054	144,472	111,823
Aerated-water factories	98,609	91,691	94,098
Bacon-curing establishments	86,022	83,435	58,799
Furniture factories	85,327	131,314	162,375
Chaff-cutting works	78,497	63,236	54,440
Chemical works	75,320	41,568	34,263
Coffee and spice works	74,339	64,024	98,234
Brick, tile, and pottery works	66,140	56,830	91,797
Saddlery and harness factories	63,735	37,347	..
Tinware factories	63,723	14,297	8,500
Rope and twine works	52,400	76,711	56,413
Fruit-preserving and jam-making works ..	36,108	27,255	32,292
Confectionery works	33,235	17,248	17,130
Flax-mills	32,546	234,266	20,059
Sail, tent, and oilskin factories	30,166	31,083	25,574
Ship- and boat-building works	25,233	35,847	56,132
Spouting and ridging works	23,762	33,140	25,478
Brush and broom factories	23,363	13,340	7,786
Waterproof factories	22,254	..	..
Cooperages	19,233	11,540	11,862
Cycle factories	18,817	5,655	1,301
Woodenware factories	18,276	9,050	..
Lime and cement works	15,881	19,416	16,928
Sausage-skin and violin-string factories ..	13,472	10,582	..
Sauce and pickle works	13,417	6,407	3,145
Bone-mills	12,246	4,628	8,337
Basket and perambulator factories	11,920	7,881	4,375
Hat and cap factories	10,902	21,628	13,695
Fish-curing and -preserving works	10,292	19,537	12,182
Baking-powder factories	10,153	5,637	4,120
Venetian-blind factories	9,878	4,776	6,470
Stocking-weaving factories	9,357	5,650	6,200
Sheep-dip factories	9,138	..	..
Colonial-wine works	8,963	3,456	3,626
Paper-bag and cardboard-box factories ..	7,698	4,497	..
Other industries in respect of which the value of the manufactures was less than £8,000	463,899	380,156	235,148
Totals	£9,549,360	8,773,837	6,711,379

The order of the principal industries, ranged according to the number of hands employed, is as follows:—

	Number of Hands.	
	1896.	1891.
Clothing and boot and shoe factories	4,407	3,233
Sawmills, sash and door factories	4,059	3,266
Printing establishments (excluding Government Printing Office)	2,351	2,569
Meat freezing, preserving, and boiling-down works	2,037	1,568
Iron and brass foundries, boiler-making, machinists, and millwrights (excluding Railway Workshops)	1,642	1,787
Tanning, fellmongering, and wool-scouring establishments	1,629	1,196
Woollen-mills	1,416	1,175
Coach-building and painting works	807	678
Flax-mills	647	3,204
Agricultural implement factories	581	528
Butter and cheese factories	576	269
Breweries and malthouses	560	563
Furniture factories	496	585
Brick, tile, and pottery works	455	494
Biscuit factories	425	331
Grain-mills	419	499
Aerated-water factories	347	261
Gasworks	295	249
Tinware factories	289	93
Saddlery and harness factories	266	184
Chaff-cutting works	212	205
Fruit-preserving and jam-making works	198	117
Soap and candle works	190	209
Sugar refining works	160	110
Rope and twine works	150	222
Sail, tent, and oilskin factories	143	124
Stocking-weaving factories	133	51
Cycle factories	125	31
Bacon-curing establishments	123	84
Match factories	121	..
Coffee and spice works	119	81
Chemical works	114	55
Ship- and boat-building yards	108	145
Waterproof factories	93	..
Brush and broom factories	92	81
Spouting and ridging works	90	100
Ammunition factories	90	80
Paper-bag and cardboard-box factories	86	35
Paper-mills	84	48
Woodenware factories	81	51
Lime and cement works	79	98
Basket and perambulator factories	76	63
Cooperages	76	53
Fish-curing and -preserving works	75	140
Hat and cap factories	72	112
Confectionery works	69	53
Sauce and pickle works	68	41
Cleaning and dyeing works	58	48
Sausage-skin and violin-string factories	56	73
Colonial wine works	53	24
Bone-mills	46	25
Venetian-blind factories	45	29
Rabbit-preserving works	32	..
Graving docks and patent slips	29	64
Sheep-dip factories	29	..

	Number of Hands.	
	1896.	1895.
Starch and soda works	27	13
Textile bag factories	22	14
Pumice works	20	..
Industries employing under 20 hands	246	222
	27,389	25,633

MEAT-FREEZING AND PRESERVING, WITH BOILING-DOWN.

Forty-three of these establishments were returned in 1896, being exactly the same number as in 1891. The hands employed increased from 1,568 to 2,037 in the five years; 52 of the hands working in 1896 were females. The wages paid also increased from £138,459 in 1890 to £180,775 in 1895. The carcasses of sheep and lambs frozen increased by 631,624, besides which 2,463,406 pounds weight of legs of mutton were frozen in 1895; but in frozen beef there was a great falling off. The chilled beef, however, shows development from 500,000 lb. in 1890 to 778,775 lb. Other frozen produce (mostly butter), to the value of £65,776, was prepared in 1895. In preserved meats there has been a fall in the product, from 6,291,278 lb. to 4,999,640 lb. The preparation of corned beef ceased altogether since 1890; but tallow shows increase of 3,888 tons. The total value of all the produce was £1,652,275, against £1,464,659 in 1890.

Census Year.	No. of Works.	Hands employed.		Wages paid.		Machine-power used.			Amount of Horse-power.	Produce, 1895 and 1890.	
		M.	F.	M.	F.	Steam.	Water.	Hand.		Sheep and Lambs frozen	
										Carcasses.	Value.
1896 ..	43	1,985	52	£180,471	£304	42	3	..	7,492	No. 2,362,535	£1,213,559
1891 ..	43	1,561	7	138,312	147	39	1	4	5,112	1,730,911	956,036
Increase ..	..	424	45	42,159	157	3	2	..	2,380	*631,624	*257,523
Decrease ..	..	..	..	..	..	..	..	4	..	..	..

Census Year.	Produce for the Years 1895 and 1890—continued.							
	Beef frozen.		Chilled Beef.		Preserved Meats.		Tallow.	
	Quantity.	Value.	Quan.	Value.	Quantity.	Value.	Quan.	Value.
1896 ..	Lb. 1,175,720	£12,579	Lb. 778,775	£8,846	Lb. 4,999,640	£74,369	Tons. 10,958	£172,310
1891 ..	19,158,419	195,546	500,000	4,000	6,291,278	122,230	7,070	144,282
Increase ..	..	..	278,775	4,846	..	..	3,888	28,028
Decrease ..	17,977,699	182,967	..	..	1,291,638	47,861	..	..

* Also 2,463,406 lb. legs of mutton frozen in 1895, valued at £16,373.

Census Year.	Produce for the Years 1895 and 1899—continued.							
	Corned Beef.		Bonedust.		Neatsfoot and Trotter Oil.		Bones, Horns, Hoofs, &c.	
	Quan.	Value.	Quan.	Value.	Quan.	Value.	Quan.	Value.
1896	Casks.	£	Tons.	£	Galls.	£	Tons.	£
1891	6,339	14,006	2,703	15,484	10,575	2,010	3,059	6,490
Increase	..	..	545	..	4,492	87	..	..
Decrease	..	6,339	14,006	3,619	..	..	2,946	6,302

Census Year.	Produce, 1895 and 1899—continued.		Approximate Value of		
	Other Products: Value.	Total Value of all Produce, 1895 and 1899.	Land.	Buildings.	Machinery and Plant.
1896	£	£	£	£	£
1891	†130,665	1,652,275	67,504	326,224	317,323
Increase	4,575	1,464,659	67,206	229,607	179,338
Decrease	..	..	..	..	..
Increase	126,090	187,616	298	96,617	137,985

* Also 2,206 tons of other manures in 1895, valued at £9,424.

† Including £65,776, value of frozen butter and other minor frozen products.

Canterbury (with Marlborough) takes the lead in the value of the output for 1895, £689,276; Wellington second place, £348,412; Otago third, £267,252; Auckland shows £116,234; and Taranaki and Hawke's Bay £194,045.

BACON-CURING.

The number of the establishments was 37 in 1896, against 33 in 1891, with an increase of 39 hands and of £698 in wages paid. The quantity of bacon and hams cured also shows development; while the capital invested in land, buildings, machinery, and plant has apparently increased by £8,338 during the five years.

Census Year.	Number of Works.	Hands employed.		Wages paid.	Machine-power used.		Amount of Horse-power.
		M.	F.		Steam.	Water.	
1896	37	118	5	£	7	1	H.p.
1891	33	83	1	7,394	..	..	49
Increase ..	4	35	4	6,696	7	1	7
Decrease ..	..	..	..	698	..	..	42

Census Year.	1895 and 1890.		Approximate Value of		
	Bacon and Hamis cured.	Total Value of all output.	Land.	Buildings.	Machinery and Plant.
	Cwt.	£	£	£	£
1896	34,060*	86,022	6,823	11,090	4,605
1891	29,448	83,435	4,270	8,825	1,085
Increase ..	4,612	2,587	2,553	2,265	3,520

* Also 5,200 sides and rolls of bacon.

FISH-CURING AND PRESERVING.

More fish-curing was done in 1895 than in 1890, the increase in weight being 884,239 lb. on a quantity of 835,273 lb. cured in the former year, the product for 1895 being 1,719,512 lb. But the output of tinned fish diminished from 335,046 lb. to 113,304 lb., and the total value of all products of the 27 establishments fell from £19,537 to £10,292.

BUTTER AND CHEESE FACTORIES.

In 1896 there were 170 of these factories, having in connection with them 105 creameries, in regard to which the particulars as to hands, wages, &c., have been included: 24 creameries were in Auckland, 31 in Taranaki, 29 in Wellington, 1 in Nelson, 12 in Canterbury, and 8 in Otago. In 1891 the number of factories was only 74. The number of hands in 1895 was more than double the number for 1890, increasing from 269 to 576, with a corresponding increase in respect of wages. The butter produced in 1895, shown in pounds weight, amounted to 11,336,776 lb., a striking contrast to the output for 1890, which was only 1,969,759 lb. The output of cheese also rose from 1,960 tons to 4,323 tons; and the total value of all products from £150,957 to £501,274.

The Taranaki Provincial District had 53 factories, turning out most butter, and coming second in cheese; Otago had 44 factories, and stood first in cheese-making; Auckland had 21 factories, Wellington 18, and Canterbury 14, with quantities of butter and cheese not very widely different. Hawke's Bay, Marlborough, and Nelson each had a small output.

Far more butter was made in the North Island factories than in those of the Middle Island. The figures are—North Island, 9,267,778 lb.; Middle Island, 2,068,998 lb. But the Middle Island factories produced 2,395 tons of cheese, against 1,928 tons in the North Island.

Census Year.	No. of Factories.	Hands Employed.		Amount paid in Wages.		Machine-power used.					Amount of Horse-power.
		M.	F.	M.	F.	Steam.	Water.	Gas and Oil.	Horse.	Hand.	
1896 ..	170	548	23	£ 39,716	£ 441	234	33	1	3	7	H.p. 1,531
1891 ..	74	218	51	13,800	1,128	60	6	1	2	5	987
Increase	96	330	23	25,916	..	174	27	..	1	2	1,144
Decrease	..	..	..	..	687	..	..	..	..	..	..

Census Year.	Produce for the Years 1895 and 1890.					Approximate Value of		
	Cheese.		Butter.		Total Value of all Produce.	Land.	Buildings.	Machinery and Plant.
	Quan.	Value.	Quan.	Value.				
1896 ..	Tons. 4,323	£ 146,158	Lb. 11,336,776	£ 355,116	£ 501,274	£ 27,335	£ 91,601	£ 115,070
1891 ..	1,960	68,710	1,969,759	73,340	150,957	41,896	31,648	27,409
Increase	2,363	77,448	9,367,017	281,776	350,317	..	59,953	87,661
Decrease	..	..	..	..	..	14,061	..	..

GRAIN-MILLS.

Here the result of a five years' comparison is to show, what might be expected, a decrease in the number of mills in operation and decline of hands employed, also in output of grain, and other details. There were only 90 mills at work in 1896 against 129 in 1891, while the hands fell in number by 80, and the annual wages from £52,384 to £40,890. The fall in the grain operated on, and in the quantity and value of the produce, are given in the accompanying statement:—

Census Year.	No. of Mills.	Number of Hands employed.	Wages paid.	Machine-power used.					Amount of Horse-power.	Number of		Grain operated upon, 1895 and 1890.
				Steam.	Water.	Wind.	Horse.	Wind, Steam, and Gas.		Pairs of Stones.	Sets of Rollers.	
1896 ..	90	419	£ 40,890	51	45	1	..	1	2,333	144	406	Bushels. 3,815,433
1891 ..	129	499	52,384	63	77	..	3	1	2,906	274	273	4,406,350
Increase	..	..	..	..	..	1	..	..	..	..	133	..
Decrease	89	80	11,494	12	32	..	3	..	573	130	..	590,917

Census Year.	Grain operated upon, 1895 and 1890—continued.		Produce for the Years 1895 and 1890.			Approximate Value of		
	Other Grain.	Value.	Flour.	Meal.	Value.	Land.	Buildings.	Machinery and Plant.
	Bushels.	£	Tons.	Tons.	£	£	£	£
1896 ..	731,448	653,219	81,033	16,482	874,656	41,730	134,714	179,403
1891 ..	694,945	739,590	95,133	27,776	991,812	77,237	148,410	166,181
Increase ..	36,503	..	..	..	..	..	..	13,222
Decrease ..	..	86,371	14,100	11,294	117,156	35,507	13,696	..

BISCUIT FACTORIES.

With reduced operations of the grain-mills it is found that the biscuit factories in work were only 17 for 1896 against 22 in 1891, but the value of the manufactures was more than maintained, having been £118,979 in 1895 against £117,147 for 1890. The number of hands employed and wages paid also increased somewhat:—

Census Year.	Number of Works.	Hands.		Wages		Machine-power used.		Horse-power.
		M.	F.	M.	F.	Steam.	Gas.	
				£	£			H.-p.
1896 ..	17	345	80	18,801	1,355	10	4	134
1891 ..	22	284	47	16,150	1,049	..	..	134
Increase ..	..	61	33	2,651	306	10	4	..
Decrease ..	5	..	..	..	..	..	..	..

Census Year.	Biscuits made.	Total Value of Manufactures for 1895 and 1890.	Approximate Value of		
			Land.	Buildings.	Machinery and Plant.
	Tons.	£	£	£	£
1896 ..	3,003	118,979	11,340	21,575	25,951
1891 ..	*	117,147	11,900	17,069	19,991
Increase ..	..	1,832	..	4,506	5,960
Decrease ..	..	..	560	..	..

FRUIT-PRESERVING AND JAM-MAKING.

This industry developed from 15 establishments in 1891 to 22 in 1896. Bottled or preserved fruit, jam, and other kinds of preserves were all more largely made in the year 1895 than in 1890, and the

* Not stated.

total annual value of manufactures increased by £8,853, the amount being £27,255 in 1890 and £36,108 in 1895.

Census Year.	Number of Works.	Hands employed.		Wages paid.		Machine-power used.			Amount of Horse-power.	Value of Materials used, 1895 and 1890.
		M.	F.	M.	F.	Steam.	Water.	Hand		
1896 ..	22	103		£ 905,101	£ 1,450	6	..	..	H. p. 77	£ 20,542
1891 ..	15	74		£ 433,781	£ 961	5	..	10	33	13,413
Increase	7	29		£ 471,320	£ 489	1	..	..	44	7,129
Decrease	..	..	..	..	..	..	..	10	..	..

Census Year.	Manufactures, 1895 and 1890.				Other Preserves.		Value of all Manu- factures, 1895 and 1890.	Approximate Value of		
	Fruit, bottled or preserved.		Jam made.					Land.	Buildings.	Machinery and Plant.
	Quan.	Value.	Quan.	Value.	Quan.	Value				
1896	Lb.	£	Lb.	£	Lb.	£	£	£	£	
1896 ..	72,790	1,676	1,930,058	83,355	52,118	1,077	36,108	4,504	9,865	
1891 ..	56,188	1,166	1,250,238	25,985	7,920	104	27,255	2,975	3,305	
Increase	16,602	510	679,820	7,370	44,198	973	8,853	1,529	6,560	
									736	

CONFECTIONERY WORKS.

This industry is becoming an important one. The value of the manufactured articles for the year 1895 reached the sum of £33,235, which is £15,987 in excess of the value returned for 1890. Though the number of establishments remained at 12, the hands employed show an increase of 16 persons.

BREWERIES.

The breweries in 1896 show a reduction on the number in 1891 of 17. While the hands employed in 1896 were 11 fewer than in 1891, the wages paid in 1895 were higher than before. The quantity of beer made has not increased greatly in five years, the figures being 5,022,732 gallons in 1890 against 5,249,278 gallons in 1895. Indeed, a large increase was not to be expected, as the consumption of all kinds of beer per head of population (excluding the Maoris) fell from 7·899 gallons in 1890 to 7·421 gallons in 1895. But, notwithstanding this, the beer manufactured in New Zealand on which excise duty was paid shows, similarly to the census returns, an increase, though the quantities are not so large. In 1890 duty was received by the Government on 4,676,240 gallons of New-Zealand-made beer, and in 1895 on 4,936,400 gallons.

Census Year.	Number of Breweries.	Hands.		Wages paid.	Motive-power employed.					
		M.	M.		Steam.	Water.	Gas.	Wind.	Horse.	Hands.
1896 ..	85	465	£ 57,327	56	6	4	2	5	14	
1891 ..	102	476	54,825	62	6	4	1	3	26	
Increase	..	..	2,502	..	..	..	1	2	..	
Decrease	17	11	..	6	..	..	..	..	13	

Census Year.					Amount of Horse-power.	Number of	
						Horses employed.	Drays employed.
1896	..	..	..	..	H.-p. 441	180	149
1891	..	..	..	..	409	208	163
Increase					32	..	..
Decrease					..	28	14

Census Year.	Materials used during Years 1895 and 1890.				Beer made 1895 and 1890.		Approximate Value of		
	Sugar.	Malt.	Hops.	Value.	Quantity.	Value.	Land.	Buildings.	Machinery and Plant.
1896	Lb. 1,607,144	Bush. 328,059	Lb. 424,839	£ 125,706	Gal. 5,249,278	£ 336,734	£ 51,533	£ 115,038	£ 63,850
1891	1,345,935	348,134	441,364	184,087	5,022,732	300,508	66,764	113,565	56,496
Inc.	261,209	..	..	..	226,546	36,226	..	1,468	7,354
Dec.	..	20,075	16,525	8,381	..	..	15,231	..	..

MALTHOUSES.

The malthouses in connection with the breweries were 31 at last census, and 356,408 bushels of barley were malted in the year 1895. The returns do not show much development in the malting business since 1890.

Census Year.	Number of Works.	Hands employed.	Wages paid.	Machine-power used.						Amount of Horse-power.
				Steam.	Water.	Gas.	Horse.	Hand.	Wind.	
1896 ..	81	95	£ 9,898	8	1	1	1	25	..	H.-p. 59
1891 ..	27	87	7,875	6	..	1	..	20	..	47
Increase	4	8	1,523	..	1	..	1	5	..	12
Decrease	..	..	..	8	..	..	..	..	..	..

Census Year.	Value of Materials used.	Barley Malted, 1895 and 1890.		Approximate Value of		
		Quantity.	Value.	Land.	Buildings.	Machinery and Plant.
1896 ..	£ 52,881	Bushels. 356,408	£ 82,096	£ 6,685	£ 27,910	£ 2,909
1891 ..	54,983	326,070	80,341	7,845	31,270	3,327
Increase	..	30,338	1,755	..	..	..
Decrease	2,102	..	..	1,160	3,360	418

COLONIAL-WINE MAKING.

Besides 15,860 gallons of colonial wine made in 1895, and also 63 gallons of brandy used to fortify the wine, 19,178 gallons of cider were manufactured. These results are satisfactory on comparison with those of 1890, when the wine amounted to only a little over 9,000 gallons, and hardly any cider was produced.

Census Year.	Number of Works.		Hands.		Wages.		Machine-power used: Steam.	Horse-power.	Wine made.	Cider.	Value of Products, 1895-90.	Approximate Value of		
			M.	F.	M.	F.						Land.	Buildings.	Machinery and Plant
1896	19	41	12	£ 1,925	£ 95	2	H.p.	Galls.	Galls.	£	£	£	£	
1891	14	18	6	458	120	..	..	15,860*	19,178	3,963	8,224	2,929	1,679	
								9,333	375	3,456	2,650	2,060	620	
Inc.	5	23	6	1,467	..	2	6	6,527	18,803	5,507	5,374	869	1,059	
Dec.	..	..	..	..	25	..	..	..	..	..	..	..	..	

* Also 63 gallons of brandy made and used to fortify wines.

AERATED-WATER AND CORDIAL FACTORIES.

With 132 of these factories, employing 330 males and 17 females, the increase in the quantity of aerated waters manufactured was from 976,644 dozens in 1890 to 1,091,580 dozens in 1895, or 114,936 dozens, being at the rate of nearly 12 per cent., and keeping pace with the increase of population.

Cordial-making shows still better; but tonic beer, according to the returns, was not so largely made in 1895 as it was five years previously. The total value of all manufactures gives a good result, as will be seen below.

Census Year.	No. of Works.	Hands employed.		Wages paid.		Machine-power used.	
		M.	F.	M.	F.	Steam.	Water.
1896 ..	132	330	17	£ 21,184	£ 261	46	17
1891 ..	112	253	8	16,982	39	27	23
Increase	20	77	9	4,202	222	19	..
Decrease	..	..	..	..	..	..	6

Census Year.			Machine-power used —continued.			Horse-power.	Manufactures for the Years 1895 and 1890.		
			Horse.	Gas.	Hand.		Aërated Waters.	Cordials.	Tonic Beer.
1896	..	..	11	24	35	H.-p. 216	Doz. 1,091,580	Doz. 20,720	Doz. 17,415
1891	..	..	14	17	32	155	976,644	13,906	20,582*
Increase	..	..	..	7	3	61	114,936	6,814	..
Decrease	..	..	3	..	..	..	..	..	3,167*

Census Year.		Manufactures, 1895 and 1890 —continued.		Older.	Total Value of Manu- factures.	Approximate Value of			
		Miscellaneous.				Land.	Build- ings.	Machinery and Plant.	
		Quan.	Value.						
1896	..	..	Gals. 18,907	£ 1,350	Casks. 50	£ 98,609	£ 19,476	£ 32,439	£ 37,429
1891	..	..	8,270	1,075	..	91,691	19,970	24,680	28,497
Increase	..	..	5,637	275	50	6,918	..	7,759	8,932
Decrease	..	..	..	..	..	..	494	..	..

*And 980 gallons.

† Including 6,000 gallons vinegar.

COFFEE AND SPICE WORKS.

The number of these works increased from 17 in 1891 to 18 in 1896, and the hands from 81 to 119. The value of manufactured goods rose from £64,024 to £74,339 in the five years.

SAUCE- AND PICKLE-MAKING.

Sixty-eight persons were employed in this industry in 1896. Pickles to the quantity of 9,949 dozens of pints formed the output for 1895, against 4,128 dozens in 1890. But sauce-making declined from 25,213 dozens of pints to 20,539 dozens.

Census Year.	Number of Works.	Hands employed.		Wages paid.		Machine power used.	Amount of Horse- power.	Value of Materials used.
		M.	F.	M.	F.			
1896 ..	24	44	24	£ 1,835	£ 622	3	H.-p. 57	£ 7,934
1891 ..	12	22	19	1,078	555	1	1	2,713
Increase	12	22	5	757	67	2	56	5,221

Census Year.	Manufactures for the Years 1895 and 1890.					Total Value of Manufactures.	Approximate Value of		
	Sauce.		Pickles.		Other Condiments.		Land.	Buildings.	Machinery and Plant.
	Quantity.	Value.	Quantity.	Value.					
1896 ..	Doz. Pnts	£	Doz. Pnts	£	£	£	£	£	£
1891 ..	20,539	6,229	9,949	3,793	3,395	13,417	5,175	5,160	1,574
	25,213	4,366	4,128	1,393	648	6,407	1,885	2,325	886
Increase	..	1,863	5,821	2,400	2,747	7,010	3,290	2,835	688
Decrease	4,674	..	..	..	..	..	..	..	..

SOAP AND CANDLE WORKS.

Although the number of works advanced from 19 in 1891 to 22 in 1896, the persons employed were slightly fewer in the latter year, and the quantity of soap manufactured in 1895 (85,637 cwt.) was returned as a little less than that made in 1890. The manufacture of candles diminished in the quinquennium, besides that of other manufactures (various) at the above works; leaving a result of £152,298, value of all manufactures in 1895, against £155,714 in 1890.

Census Year.	Number of Works	Hands employed.		Wages paid.		Machine-power used.		Amount of Horse-power.	Value of Materials used.
		M.	F.	M.	F.	Steam.	Water.		
1896..	22	187	3	£ 16,882	£ 21	17	..	H. p. 252	£ 98,194
1891..	19	201	8	£ 21,194	£ 200	14	1	259	93,386
Increase	3	..	..	..	..	3	..	..	4,808
Decrease	..	14	5	4,312	179	..	1	7	..

Census Year.		Manufactures for 1895 and 1890.				Total Value of Manufactures.	Approximate Value of		
		Soap.		Candles.	Other Manu- fact'rs.		Land.	Build- ings.	Machinery and Plant.
		Quantity.	Value.						
1896	..	Cwt.	£	£	£	£	£	£	
1891	..	85,637	71,382	58,512	22,404	152,298	9,884	20,110	
	..	87,137	66,790	62,122	26,802	155,714	11,282	15,650	
Increase	..	..	4,592	..	..	..	..	4,460	
Decrease	..	1,500	..	3,610	4,398	3,416	1,398	..	
								18,679	

COOPERAGES.

These numbered 21, according to the returns for 1896. 33,418 casks were made in 1895, against 17,918 in 1890, but the manufacture of kegs fell off greatly. The noticeable feature in the 1895 returns is the construction of butter-boxes to the number of 78,378, and of cheese-cases 3,660, which articles were apparently not made at all in the colony five years ago, kegs being more generally used instead.

Census Year.	Number of Works.	Hands employed.	Wages.	Machine-power used.	Horse-power.	Value of Materials used.
		M.		Steam.		
1896 ..	21	76	£ 4,250	10	H.-p. 110	£ 10,281
1891 ..	11	53	3,866	..	31	4,608
Increase	10	23	384	10	79	5,673

Census Year.	Manufactures for the Years 1895 and 1890.				Total Value of Output.	Approximate Value of		
	Kegs.	Casks.	Butter-boxes.	Cheese-cases.		Land.	Buildings.	Machinery and Plant.
1896 ..	1,680	33,418	78,378	3,660	£ 19,233	£ 8,297	£ 8,353	£ 4,525
1891 ..	12,848	17,918	..	..	11,540	1,500	2,020	2,200
Increase	..	15,500	78,378	3,660	7,693	1,797	1,333	2,325
Decrease	11,168	..	..	..	..	..	..	..

SAWMILLS, AND SASH AND DOOR FACTORIES.

With an increase of 56 mills since 1890, and 793 hands, there is found by the returns an increase of annual output amounting to 28,937,245 ft. of sawn timber, besides 10,574,274 ft. of resawn, flooring, &c., and 4,216,784 running feet of mouldings, with a large number of doors and sashes. But the total value of all the output only increased from £832,959 for 1890 to £898,807 for 1895. The quantity of timber (first) sawn in Auckland Provincial District during 1895 was 79,464,526 ft., against 34,605,504 ft. in Wellington and 27,423,985 ft. in Otago. Hawke's Bay returned 13,393,212 ft., and Taranaki 11,046,771 ft. Nelson shows 9,085,059 ft., and Westland 8,884,686 ft. Canterbury returned only 3,697,230 ft., and Marlborough 3,452,493 ft. There were employed at the sawmills 4,059 hands.

Census Year.	No. of Mills.	Hands employed.		Wages paid.		Motive-power used.					Amount of Horse-power.
		M.	F.	M.	F.	Steam.	Water.	Gas.	Horse.	Not stated.	
1896 ..	299	4,055	4	£ 323,223	274	29	1	..	..	..	H. p. 6,409
1891 ..	243	3,260	6	271,814	218	23	2	..	..	2	4,637
Inc. Dec. ..	56	795	..	51,409	56	6	..	..	..	2	1,772
Dec. ..	..	..	2	..	..	..	1	..	..	..	..

Census Year.	Output for the Years 1895 and 1890.							
	Sawn Timber.		Value of Posts, Rails, &c.	Re-sawing, Planed, Flooring, Skirting, &c.		Mouldings.		
	Quantity.	Value.		Quantity.	Value.	Quantity.	Value.	
1896 ..	Ft. 191,053,466	£ 627,959	£ 10,998	Ft. 41,026,223	£ 173,765	Run. ft. 12,653,368	£ 44,104	
1891 ..	162,116,221	566,535	56,293	30,451,949	144,095	8,436,584	25,786	
Inc. Dec. ..	28,937,245	61,424	..	10,574,274	29,670	4,216,784	18,318	
Dec. ..	..	..	45,295	..	..	..	..	

Census Year.	Output for 1895 and 1890 —continued.		Total Value of all Output.	Approximate Value of		
	Doors and Sashes.			Land.	Buildings.	Machinery and Plant.
	Quantity.	Value.				
1896 ..	No. 61,550	£ 41,981	£ 898,807	£ 186,958	£ 100,667	£ 298,797
1891 ..	52,275	40,250	832,959	160,750	92,848	246,674
Inc. Dec.	9,275	1,731	65,848	26,208	7,819	52,123
	..	..	..	..	..	..

GASWORKS.

In April, 1896, there were 27 gasworks in operation, employing 295 persons. Comparing the quantities of gas made in 1890 and 1895 shows an increasing demand, in spite of electricity. In 1890, 426,602,764 cubic feet were made, and in 1895 the quantity was 24·72 per cent. greater, or a total of 532,060,300 cubic feet.

Census Year.	No. of Works.	Hands employed.		Wages paid.		Machine-power used.			Amount of Horse- power.	Produce for the Years 1895 and 1890.	
		M.	F.	M.	F.	Steam.	Water.	Gas.		Gas made.	
										Quantity.	Value.
				£	£				H.-p.	Cubic feet.	£
1896 ..	27	293	2	37,747	102	19	1	8	126	532,060,300	178,196
1891 ..	27	249	..	31,700	..	17	1	3	117	426,602,764	159,838
Inc.	..	44	2	6,047	102	2	..	5	9	105,457,536	18,358

Census Year.	Produce for the Years 1895 and 1890— <i>continued.</i>					Total Value of all Pro- duce.	Approximate Value of		
	Coke.		Tar.		Other Resi- duals: Value.		Land.	Buildings.	Machinery and Plant.
	Quantity.	Value.	Quantity.	Value.					
1896 ..	Tons. 17,339	£ 14,446	Gallons. 345,632	£ 4,649	£ 1,734	£ 199,025	£ 41,422	£ 79,610	£ 645,641
1891 ..	18,758	13,569	409,554	5,420	120	178,947	49,763	61,564	619,163
Increase	..	877	..	..	1,614	20,078	..	18,046	26,478
Decrease	1,419	..	63,922	771	..	..	8,341	..	..

BRICK, TILE AND POTTERY WORKS.

The manufacture of bricks and drain-pipes developed considerably between the years 1890 and 1895, the number of common bricks annually made having risen from 15,343,420 in 1890 to 18,805,715 in 1895. But in pottery of various kinds the comparison shows a decline in the manufacture. Of 108 establishments, Otago had 30, Auckland 21, Wellington 17, and Canterbury 15. The output of bricks was the greatest in Otago, 5,781,400 in number; Auckland coming next with 4,185,255; Wellington third, with 3,587,250; while in Canterbury 3,485,010 were made.

Census Year.	Number of Works.	Hands employed.		Wages paid.		Machine-power used.				Amount of Horse-power.	Number of Machines used.		
		M.	F.	M.	F.	Steam.	Gas.	Horse.	Water.		Hand.	For tanning or crushing Clay.	For making Bricks or Pottery.
1896 ..	108	454	1	£ 28,179	£ 50	38	170	..	1	H.-p. 519	108	92	
1891 ..	106	484	10	24,938	252	34	59	410	459		105	102	
Increase	2	..	..	3,241	..	4	11	..	..	60	3	..	
Decrease	..	30	9	..	202	..	..	4	9	..	..	10	

Census Year.	Manufactures for the Years 1895 and 1890.					
	Bricks made.			Pottery, &c., made.		
	Common.	Fire-bricks.	Value.	Drain-pipes.	Tiles.	Flower-pots.
1896 ..	No. 18,805,715	No. 193,600	£ 34,637	No. 1,175,065	No. 464,851	Doz. 8,347
1891 ..	15,343,420	657,379	32,160	1,003,732	558,047	24,532
Increase	3,462,295	..	2,477	171,333	..	..
Decrease	..	463,779	..	..	93,196	16,185

Census Year.	Manufactures, 1895 and 1890—continued.		Total Value of Manufacturer.	Approximate Value of		
	Pottery, &c., made.			Land.	Buildings.	Machinery and Plant.
	Miscellaneous: Value.	Total Value of Pottery, &c.				
1896 ..	£ 4,249	£ 31,503	£ 66,140	£ 24,074	£ 24,917	£ 27,594
1891 ..	6,594	24,420	56,830	39,313	38,541	41,926
Increase	..	7,083	9,310	..	..	..
Decrease	2,345	..	..	15,239	13,624	14,332

TINWARE FACTORIES.

A very large development is observed in respect of this industry. The value of the manufactures rose from £14,297 in 1890 to £63,725 in 1895. In 1885 the value of the goods was only £3,500. The number of hands increased from 93 to 289 in five years, and the establishments from 79 to 90.

IRON AND BRASS FOUNDRIES, BOILERMAKING, MACHINISTS', ETC., ESTABLISHMENTS.

The returns do not include the Government Railway Workshops, which have been omitted at previous censuses. Apart from these there is no development shown for the last five years, except in the number of works, which were returned as 90 in 1896, against 79 in 1891. The hands employed fell from 1,787 to 1,642, and the value of the manufactures from £403,635 to £302,815. The decline is noticed generally throughout the returns from various parts of the colony, so that, allowing for all roughness in what are merely returns for statistical purposes, it would appear that there was either great reduction of value or else less work was done in the colony in 1895 than in 1890. But the industry takes fifth place as regards employment of labour.

AGRICULTURAL IMPLEMENT FACTORIES.

In this industry, like that of iron-founding, no development is observed in the money value of the manufactures. The establishments from which returns were received were 34 in 1896 against 36 in 1891. But the hands employed returned at last census were 53 more than in 1891. There were 580 persons engaged in this industry at last census.

PRINTING ESTABLISHMENTS.

The Government Printing Office is not included in the account of this industry. Omitting it, the number of these establishments returned in 1896 was 12 in excess of that for 1891, but the male hands employed actually less, being 2,123, against 2,373 at the previous census. Females employed increased slightly in number. This industry ranks third as to number of persons to whom employment is afforded. The value of the products as set down for the year 1895 gave a total sum of £389,124, against £354,559 for 1890; but there seems to have been difficulty experienced in or reluctance felt to making any attempt at returning the value of the product, and in seven cases no information whatever was obtained.

Census Year.	Number of Works.	Hands employed.		Wages paid.		Machine-power used.		
		M.	F.	M.	F.	Steam.	Water.	Gas.
1896 ..	154	2,123	228	£ 204,165	£ 12,137	22	16	50
1891 ..	142	2,373	196	207,067	7,118	21	22	44
Increase	12	..	32	..	5,019	1	..	6
Decrease	..	250	..	2,902	..	..	6	..

Census Year.	Machine-power used— continued.			Horse-power.	Value of all Products.	Approximate Value of		
	Horse.	Oil.	Hand.			Land.	Buildings.	Machinery and Plant.
1896 ..	..	3	64	H. p. 532	£ 389,124	£ 68,847	£ 124,369	£ 203,699
1891 ..	1	..	60	328	354,559	71,366	96,542	173,775
Increase	..	3	4	204	34,565	..	27,827	29,924
Decrease	1	..	..	..	..	2,519	..	..

NOTE.—The table does not include particulars for the Government Printing Office.

COACH BUILDING AND PAINTING.

One hundred and twenty-nine more persons received employment in this industry in 1896 than in 1891, and 8 additional works were returned. The value of the manufactures rose from £139,660 in 1890 to £148,969 at last census.

Census Year.	Number of Works.	Hands employed.		Wages paid.		Machine-power used.		
		M.	F.	M.	F.	Steam.	Gas.	Water.
1896 ..	116	807	..	£ 57,377	£ ..	19	4	2
1891 ..	108	675	3	52,526	75	15	2	1
Increase	8	132	..	4,851	..	4	2	1
Decrease	..	..	3	..	75	..	..	..

Census Year.	Amount of Horse-power.	Total Value of Manufactures (including repairs).	Approximate Value of		
			Land.	Buildings.	Machinery and Plant.
1896 ..	H.-p. 119	£ 148,969	£ 41,376	£ 40,076	£ 24,350
1891 ..	94	139,660	45,727	31,646	18,852
Increase	25	9,309	..	8,430	5,498
Decrease	..	..	4,351	..	..

CYCLE WORKS.

Cycle-making shows considerable development. There are now 125 persons employed in 19 works, and the value of manufacture and repairs increased from £5,655 in 1890 to £18,817 in 1895; 734 cycles were made in the latter year at these manufactories.

Census Year.	Number of Works.	Hands.		Wages.		Machine-power used.		Amount of Horse-power.
		M.	F.	M.	F.	Steam.	Gas.	
1896 ..	19	125	..	£ 5,952	£ ..	4	4	H.-p. 38
1891 ..	7	90	1	1,904	25	..	..	17
Increase	12	95	..	4,048	..	4	4	16
Decrease	..	..	1	..	25	..	..	..

Census Year.	Value of Materials used in 1895 and 1890.	Number of Cycles manufactured in 1895 and 1890.	Total Value of Manufactures (including Repairs) 1895 and 1890.	Approximate Value of		
				Land.	Buildings.	Machinery and Plant.
1896 ..	£ 7,696	734	£ 18,817	£ 7,925	£ 12,210	£ 4,666
1891 ..	1,663	318	5,655	2,950	2,624	1,715
Increase	6,033	416	13,162	4,975	9,616	2,951

SADDLERY AND HARNESS WORKS.

Of these, being establishments having large operations, and manufacturing for the supply of wholesale orders, 23 were returned in 1896. There is a large proportional increase during five years in the hands employed, and the total value of manufacture and repairs.

Census Year.	Number of Works.	Hands employed.		Wages paid.		Value of Materials used, 1895 and 1890.
		M.	F.	M.	F.	
1896	23	249	17	£ 15,975	£ 529	£ 30,194
1891	8	173	11	8,591	280	23,070
Increase ..	15	76	6	6,784	249	7,124

Census Year.	Total Value of Manufactures (including Repairs), 1895 and 1890.	Approximate Value of		
		Land.	Buildings.	Machinery and Plant.
1896	£ 63,735	£ 16,323	£ 14,000	£ 4,236
1891	37,947	5,062	5,212	1,425
Increase ..	26,888	11,261	8,788	2,811

BRUSH AND BROOM MAKING.

These works numbered 15 in 1896, against 11 in 1891. The hands employed were 92 at the last census; and the value of manufactured articles increased from £13,340 in 1891 to £23,363 in 1896.

FELLMONGERING, TANNING, CURRYING, AND WOOLSCOURING.

These establishments stand sixth in importance considered as a means of employment. There were 1,629 hands working in April, 1896, against 1,196 in 1891, and 13 additional works are shown by the last returns. The increase in wool scoured and slipped was from 12,024,446 lb. in 1890 to 19,723,481 lb. in 1895; and in skins stripped, and hides and skins tanned, equally satisfactory results were obtained. The total annual value of the manufacture was about 20 per cent. greater in 1895 than recorded in 1890.

Census Year.	No. of Works.	Hands employed.		Wages paid.		Machine-power used.				Horse-power.	Number of Tanneries.	Value of Bark, Coal, Soap, &c.
		M.	F.	M.	F.	Steam.	Water.	Oil.	Wind.			
1896 ..	117	1,623	6	£ 116,715	£ 268 49	8	1	3	..	H.p. 686	1,252	£ 134,176
1891 ..	104	1,190	6	92,166	276 44	8	..	2	1	474	1,076	..
Increase ..	13	433	..	24,549	..	5	..	1	1	212	176	..
Decrease ..	..	..	..	..	8	..	..	..	..	..	..	..

Census Year.	Tons of Bark used, and Kind.					Manufacture or Produce for the Years 1895 and 1890.		
	Wattle.		New Zealand.	Other Kinds.	Total Bark used.	Wool Scoured and Slipped	Skins stripped of Wool	Hides tanned.
	Aus-tralia.	Tas-manian.						
1896 ..	Tons. 3,419	Tons. 1,423	Tons. 359	Tons. 24	Tons. 5,225	Lb. 19,723,481	No. 3,879,560	No. 154,505
1891 ..	2,591	1,452	383	122	4,548	12,024,446	2,478,298	118,925
Increase ..	828	..	..	..	677	7,699,035	1,401,262	35,580
Decrease ..	..	29	24	98	..	..	..	..

Census Year.	Manufacture or Produce, 1895 and 1890 —continued.		Total Value of Produce and Manufactures, 1895 and 1890.	Approximate Value of		
	Skins tanned.	Pelts, Salted or Preserved.		Land.	Buildings.	Machinery and Plant.
1896 ..	No. 856,918	No. 1,418,792	£ 1,237,252	£ 41,490	£ 77,186	£ 52,729
1891 ..	426,433	1,411,844	1,026,349	48,753	66,886	37,953
Increase ..	430,485	6,948	210,903	..	10,300	14,776
Decrease ..	..	..	..	7,263	..	..

CHEMICAL WORKS.

There has been steady growth in the value of the manufacture from £34,283 in 1886 to £41,586 in 1891, and £75,320 in 1896. One hundred and fourteen hands were employed at last census in seven establishments.

SHIP- AND BOAT-BUILDING.

In the report on the census of 1891 it was remarked that the comparison for that year with 1886 did not show the industry as thriving. A somewhat similar result is observed in comparing the returns for 1891 with those of 1896—at least, the hands employed and the value of manufactures fell materially. The figures are:—

Census Year.				Number of Yards.	Hands employed.	Wages paid.	Total Value of all Manufactures (including Repairs) 1895 and 1890.
1896	..	..	..	40	108	£ 6,724	£ 25,293
1891	..	..	..	37	145	10,831	35,847
Increase				3	..	..	..
Decrease				..	37	4,107	10,614

Similarly, the returns of sail, tent, and oilskin factories show a slight decrease in the money-value of the manufactured articles, from £31,083 to £30,166, though the hands employed were 143 in 1896, against 124 in 1891.

WOOLLEN MILLS.

These mills employed 478 men, 513 women, 177 boys, and 248 girls in 1896. All these numbers give an increase on those of the previous census, but greatest amongst the women, of whom only 373 were in work in 1891, against 513 last year. The wool used in 1895 was 3,485,893 lb., or 786,674 lb. more than in 1890, while most satisfactory increase is exhibited in the quantity of tweed, cloth, blankets, shawls, and rugs made, though the manufacture of flannel and shirting does not seem to have progressed, but rather retrograded.

Census Year.			No. of Works.	Hands employed.				Wages.		Machine-power used.		Horse-power.
				Men.	Women.	Boys.	Girls.	M.	F.	Steam.	Water.	
1896	..	..	9	478	513	177	248	£ 59,583	£ 92,036	9	2	H. p. 1,400
1891	..	..	8	426	373	176	200	52,250	26,790	8	..	930
Increase			1	52	140	1	48	7,333	5,246	1	2	470

Census Year.			Wool used in 1895 and 1890.		Value of other Materials used.	Manufactures for the Years 1895 and 1890.			
			Quantity.	Value.		Tweed.	Cloth.	Flannel.	Blankets.
1896	..	..	Lb. 3,485,893	£ 100,135	£ 39,182	Yds. 1,297,012	Yds. 357,228	Yds. 554,256	Pairs. 28,576
1891	..	..	2,699,219	118,081	*	966,864	34,840	773,528	19,829
Increase			786,674	..	..	330,148	322,388	..	8,747
Decrease			..	17,946	..	..	..	219,272	..

* Information not available.

Census Year.	Manufactures for Years 1895 and 1890—contd.			Total Value of Manufactures.	Approximate Value of		
	Shawls and Rugs.	Shirting.	Other Manufac- tures.		Land.	Build- ings.	Ma- chinery and Plant.
	No.	Yds.		£	£	£	£
1896	20,020	15,384	*	302,423	11,050	68,358	144,065
1891	18,728	29,540	*	279,175	24,600	69,067	166,288
Increase ..	1,292	..	..	23,248	..	..	..
Decrease ..	..	14,156	..	..	13,550	709	22,223

* "Other manufactures" in 1895 consisted of 168,802 lb. and 5,122 spindles of yarn, 21,447 dozen and 28,000 lb. of hosiery, 2,592 knitted garments, and 13,000 mats; and in 1890 of 167,471 lb. and 3,688 spindles of yarn, 3,994 dozen hosiery, and 5,142 knitted garments.

CLOTHING AND WATERPROOF FACTORIES.

Twenty-seven clothing factories, employing 307 males and 1,751 females, were in operation in April, 1896. The wages paid to the hands employed in 1895 amounted to £73,239, while the value of the manufactures for the year was £258,352; a true comparison of the work done cannot be made with the results shown in 1891, as the returns for the year 1890 were faulty. It is, however, satisfactory to note a large increase in the number of employes, and a corresponding advance in the wages paid.

Census Year.	Number of Factories.	Hands employed.		Wages paid.		Amount of Horse-power.	Total Value of Manu- factures, 1895 and 1890.	Approximate Value of		
		M.	F.	M.	F.			Land.	Build- ings.	Ma- chinery and Plant.
1896 ..	27	307	1,751	£ 26,450	£ 46,789	H.-p. 62	£ 258,352	£ 18,550	£ 29,900	£ 8,254
1891 ..	19	229	1,061	£ 19,489	£ 33,265	7	£ 166,579	£ 21,000	£ 34,200	£ 4,535

In addition to clothing factories, four establishments were in 1896 engaged in the manufacture of waterproof garments only. These in 1895 turned out 14,320 waterproofs, valued at £22,354; besides which 5,500 waterproof garments were made in the clothing factories.

Census Year.	Number of Factories.	Hands employed.		Wages paid.		Amount of Horse-power.	Total Value of Manu- factures, 1895.	Approximate Value of		
		M.	F.	M.	F.			Land.	Build- ings.	Ma- chinery and Plant.
1896 ..	4	15	78	£ 1,344	£ 2,540	H.-p. 2	£ 22,354	£ 2,650	£ 1,900	£ 766

BOOT AND SHOE FACTORIES.

Although the returns for 1896 show 18 more factories than in 1891, and a substantial increase in the hands employed and quantities of manufactured goods on the figures for the previous census, yet the total value of all manufactures, as brought out, is only £357,806 for 1896 against £403,736 in 1891. If such a result be correct, it could only be accounted for by much reduced prices. But perhaps all the boots and shoes made in 1890 were not included in the returns as to their number, although dealt with as to total value. It is impossible now to ascertain the facts. At least it may be said that this industry (factories only) employed 1,752 males and 597 females in 1895, and turned out 1,070,655 pairs of boots and shoes, besides slippers and uppers, the boots and shoes alone being 238,101 pairs in excess of the number for 1890.

Census Year.	No. of Works.	Hands employed.		Wages paid.		Machine-power used.				Horse-power.	Value of Materials used in 1895 and 1890.
		M.	F.	M.	F.	Steam.	Water.	Gas.	Hand.		
1896 ..	65	1,752	597	119,243	17,981	1	7	15	41	H.p. 69	£ 176,838
1891 ..	47	1,475	468	107,040	17,950	2	2	11	32	46	193,251
Increase	18	277	129	12,203	31	..	5	4	9	23	..
Decrease	..	..	..	..	..	1	..	..	..	..	16,413

Census Year.	Manufactures for the Years 1895 and 1890.			Total Value of Manufactures.	Approximate Value of		
	Boots and Shoes.	Slippers.	Uppers.		Land.	Buildings.	Machinery and Plant.
1896 ..	Pairs. 1,070,655	Pairs. 10,409	Pairs. 18,813	£ 357,806	£ 36,989	£ 46,610	£ 26,436
1891 ..	832,554	13,796	10,806	403,736	26,010	37,500	18,627
Increase	238,101	..	8,007	..	10,979	9,110	7,809
Decrease	..	3,997	..	45,930	..	..	..

FLAX-MILLS.

In the report for 1891 it was remarked that "the development shown in this industry would indeed be most encouraging, but, unfortunately, its permanence is questionable." The complete collapse shown by the returns for 1896 proves that the reservation was indeed necessary. Against 177 mills in 1891, only 52 were in operation in 1896. The number of men employed fell from 2,169 to 484; and of boys, numbering 1,029 in 1891, only 163 were found to be working five years later. The wages paid fell from

£116,168 to £17,544. The raw material used, the quantity of fibre dressed, and tow produced in 1895 show, compared with the previous period, a deplorable reduction, and, finally, the money-value of the total output of the mills for 1895 was only £32,546, against £234,266 in 1890. The diminished value of the land, buildings, machinery, and plant in use all tell the same tale.

Census Year.	No. of Works.	Hands employed.		Wages paid.	Machine-power used.		
		Men.	Boys.		Steam.	Water.	Horse.
1896	52	484	163	£ 17,544	23	30	..
1891	177	2,169	1,029	116,168	125	67	1
Decrease ..	125	1,685	866	98,624	102	37	1

Census Year.	Amount of Horse-power.	No. of Machines used.	Raw Material used, 1895 and 1890.		Fibre dressed, 1895 and 1890.	
			Quantity.	Value.	Quantity.	Value.
1896	H.-p. 553	65	Tons. 21,770	£ 7,775	Tons. 2,999	£ 31,771
1891	1,994	304	109,688	59,210	14,412	232,802
Decrease ..	1,441	239	87,918	51,435	11,413	201,031

Census Year.	Tow produced.		Total Value of Output, 1895 and 1890.	Approximate Value of		
	Quantity.	Value.		Land.	Buildings.	Machinery and Plant.
1896	Tons. 406	£ 775	£ 32,546	£ 12,448	£ 6,531	£ 12,880
1891	936	1,464	234,266	51,905	28,238	66,649
Decrease ..	530	689	201,720	39,457	21,707	54,269

The export of phormium for the five years between the two censuses was:—

Year.	Exported.	Value
1890	Tons. 21,158	£ 381,789
1891	15,809	281,514
1892	12,798	214,542
1893	12,587	219,375
1894	4,677	66,256
1895	1,806	21,040

Here the same unsatisfactory result is shown.

FISHING, OYSTER-GATHERING, AND DREDGING.

This industry was carried on in April, 1896, by 151 single persons and 205 partnerships or companies, against 123 persons and 130 companies in 1891. Thus, 28 persons and 75 partnerships have been added during five years. The persons employed were 1,088 in 1896, against 667 previously. Particulars as to boats and nets used for fishing, and dredges for procuring oysters, all show that more attention is being paid to this industry than formerly.

Of the total number of persons returned as employed in fishing and oyster-gathering, 687, or a little over two-thirds, belonged to Otago.

Census Year.	Fishing, &c., carried on.			Total Number of Persons employed	Number paid by Wages (included in previous column).	Annual Amount paid in Wages.
	By Single Persons.	By Partnerships or Companies.	Total.			
1896	151	205	356	1,088	242	£ 12,080
1891	123	190	253	667	214	15,769
Increase ..	28	75	103	421	28	..
Decrease ..	..	..	..	..	..	3,689

Census Year.	Fishing.					Oyster-gathering and Dredging.				Value of Buildings used for Fishing Purposes.
	Boats used.			Nets used.		Boats used.		Dredges used.		
	Number.	Tonnage.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1896	545	1,347	14,562	1,951	5,137	23	£ 3,073	38	101	£ 3,507
1891	418	788	8,428	1,340	4,638	13	3,124	22	85	3,993
Increase ..	127	559	6,134	611	499	10	..	16	16	..
Decrease ..	..	..	..	..	..	..	51	..	..	486

Fifteen boats (aggregate value, £300; total tonnage, 45 tons), owned by Maoris, and used for oyster-gathering, are not included.

COMPARISON WITH INDUSTRIES IN NEW SOUTH WALES AND VICTORIA.

Attention is directed to a statement showing under four different heads comparative results for the principal industries in New Zealand (1896), New South Wales (1895), and Victoria (1894). Mining works are excluded throughout, but for the purposes of this

comparison special returns for the Government Printing Office and Railway Workshops, New Zealand, were procured, and the figures included, as is done in the other two colonies.

—	Establish- ments. Number.	Hands employed. Number.	Horse-power of Engines. H.-p.	Value of Machinery and Plant. £
New Zealand (including Govern- ment Railway Workshops and Government Printing Office, but deducting mining works) 1896	2,475	28,598	28,530	3,073,774
New South Wales (1895) ..	2,409	43,833	42,849	5,855,129
Victoria (1894) ..	2,675	41,273	30,880	6,640,660

New Zealand shows well as regards number of establishments, but these are evidently not of the magnitude of those in the other two colonies, from the large difference in the number of hands employed and amount of capital invested in machinery and plant. For the year 1891 the figures stood as below:—

Year 1891.	Establish- ments. Number.	Hands employed. Number.	Horse-power of Engines. H.-p.	Value of Machinery and Plant. £
New Zealand	2,270	26,540	22,148	2,592,993
New South Wales ..	2,619	46,525	24,909	4,557,022
Victoria	3,296	58,175	30,078	6,604,322

New Zealand would, by the last statement, appear to have made a moderate advance in five years under all four heads of information. For Victoria, the number of establishments and of hands employed are shown as fewer in 1894 than in 1891, but the value of machinery and plant remains about the same. For New South Wales, the establishments and hands are fewer in 1895 than in 1891, but the value of machinery is considerably greater. These comparisons are, probably, by no means closely accurate, but in all probability they are indicative of the true conditions that have obtained, considering the disastrous financial experience of the year 1893 in Australia. The comparisons are shown in respect of each industry in the census report.

SECTION XI.—ACCUMULATION: PRICES AND WAGES.

BANKS OF ISSUE.

IN December, 1897, five banks of issue were doing business in New Zealand, the Bank of New Zealand and the Colonial Bank having amalgamated in 1895. Two of the five banks were wholly New Zealand institutions, with a paid-up capital of £1,250,000, besides which the Bank of New Zealand has £2,000,000 of 4 per cent. guaranteed stock. The Government hold £500,000 of shares in the Bank of New Zealand. The total average liabilities of all five banks for the year 1897 in respect of New Zealand transactions were £15,380,248, and the average assets £17,276,771. The average amount on deposit during the year was £14,290,512, of which sum £781,784 belonged to the General Government. Deposits to the value of £7,866,384 were bearing interest, and £5,642,344 at call. The value of the notes in circulation of these banks was £1,009,038.

The development of banking in New Zealand since the year 1857 has been very great. Taking for each year the average of the four quarters' returns made by the banks of issue, the figures for 1857, 1867, 1877, 1887, and 1897 are:—

Year.	Deposits. £	Assets. £	Liabilities. £
1857	343,316	419,860	432,494
1867 (Dec. quarter) ..	2,884,811	5,963,574	3,709,494
1877	7,185,106	12,992,104	8,152,230
1887	11,031,614	18,799,847	11,995,495
1897	14,290,512	17,276,771	15,380,248

In 1877 the deposits of these banks were £17·79 per head of the population. In 1887 they were £18·50 per head, and in 1897, £19·80. The ratio of advances to deposits, which was 147·37 per cent. in 1877, reached its maximum in 1883, when it stood at 173·35 per cent. The proportion since that year fell, till in 1897 it was only 76·21 per cent.

The value of coin and bullion held by the banks in December of each year, 1890 to 1897, is next shown:—

Quarter ended 31st December.	Coin. £	Gold and Silver in Bullion or Bars. £	Total Coin and Bullion. £
1890	2,421,530	169,659	2,591,189
1891	2,231,242	126,346	2,357,588
1892	2,381,319	141,406	2,522,725
1893	2,480,453	121,496	2,601,949
1894	3,103,355	118,121	3,221,476
1895	3,199,389	133,383	3,333,272
1896	3,171,702	122,901	3,294,603
1897	2,848,183	107,635	2,955,818

The above figures, taken from the published returns for the December quarter of each year, show that the value of the coin and bullion held by all the banks of issue doing business in New Zealand rose steadily from 1891 to 1895, in which year the value stood at £3,333,272.

Since 1895 there has been a decline, the amount at the end of 1897 being set down at £2,955,818; the figures shown for each quarter of the year 1897 being:—

		Coin. £	Bullion. £
March	quarter, 1897	 3,149,233	106,536
June	"	 3,005,605	99,950
September	"	 2,929,082	127,658
December	"	 2,848,183	107,635

In 1886 the average amount of advances made by the banks was £15,853,420, equal to £27·23 per head of the mean population. The advances gradually declined in amount and proportion to population until 1891, when they were in value £11,549,145, or £18·34 per head. During the years 1892 and 1893, however, there was a rise, but in 1894 a fall to £12,031,537 (£17·71 per head), and in 1897 to £10,892,111, or £15·09 per head, which is the lowest average since the year 1872. The discounts, which were less in 1896 than in any year since 1872, show for 1897 a small increase in value. The largest amount of discounts in any year was £6,061,959 in 1879, a rate of £13·53 per head. From 1879 there was a fall year by year until 1896, when the sum was £1,756,791, or £2·49 per head. In 1897 they totalled £1,768,845, but, with a comparatively larger population, the rate per head was only £2·45.

The deposits, as stated in the returns for the March quarters of the years 1897 and 1898, were:—

	£
Deposits not bearing interest, March quarter, 1898	5,786,303
" " " March quarter, 1897	5,735,945
Showing an increase of	£50,358

in the amount held at call.

The fixed deposits show a reverse movement, and to a greater extent:—

	£
Deposits bearing interest, March quarter, 1898 ..	7,779,326
" " " March quarter, 1897 ..	7,905,214
A decrease of	£125,888

Besides the above, the Government had with the Bank of New Zealand £745,172 on deposit in March, 1898, as against £913,868 in March, 1897.

Special Banking Legislation.

An Act was passed in 1893 intituled "The Banks and Bankers Act Amendment Act," under which, notwithstanding anything in previous legislation, the shareholders or proprietors of any bank may, from time to time, by extraordinary resolution, authorise its capital to be increased to such an amount and upon such terms as are deemed by them to be expedient. The holders of shares

in such increased capital may be granted special privileges notwithstanding anything contained in the charter of the bank.

Any increased capital may be raised by the issue of new shares of such amount as is determined on by extraordinary resolution of the shareholders or proprietors.

The Bank-note Issue Act of the same year provides that notes issued or circulated in the colony by any bank shall, to the amount of the authorised issue, be a first charge on all the assets and property (including the paid-up capital, uncalled capital, and reserve fund—"Banking Act, 1894") of such bank, and that the notes shall be payable in gold only at the office of the bank at the place of issue of the said notes.

The assets and property of a bank are defined as assets for the payment of debts or other obligations contracted or entered upon or due and payable in the colony.

The other clauses (Part II.) of the same Act were originally passed for twelve months only, but their operation was extended in 1894 for another twelve months—viz., till September, 1895. As amended by subsequent enactments, they run as follows: The Governor may declare by Proclamation the notes of any bank named to be a legal tender of money to the amount therein expressed to be payable. The period of time is to be limited by the Proclamation, and no such Proclamation is to be made unless the Governor in Council is satisfied that, as between the bank and its creditors, its assets in the colony exceed its liabilities in the colony. The bank must further pay all such notes in gold on presentation, after expiry of the time limited, at the office of the bank at the place of issue. At any time within six months after the period limited by the Proclamation, the Colonial Treasurer, on being satisfied that a bank-note covered by the Proclamation has been presented and not paid, shall pay the same in gold to any *bona fide* holder.

On the 29th June, 1894, the Colonial Treasurer introduced in the House of Representatives three Bills relating to banking, which were thereupon passed through all stages and became law forthwith.

The most important of these, intitled "An Act to guarantee out of the Consolidated Fund a Special Issue of Shares by the Bank of New Zealand to the Amount of Two Million Pounds Sterling," provided for the increase of the capital by the issue of shares* to an amount not exceeding two million pounds sterling, in guaranteed shares of ten pounds each, without further liability. These shares are preferential in respect of both capital and dividend, and the liability of the holders of ordinary shares is to secure payment of the guaranteed shares and the dividends thereon. The directors can refuse to register the transfer of ordinary shares; and no transfer, though passed by directors, is to be held valid till authorised in writing by the President of the bank. The guaranteed shares are to be called in at the end of ten years, and cancelled on payment of the principal sum with accrued dividend. The rate of dividend on preferential shares is not to exceed 4 per cent. per annum, and is to be paid by the bank. The guaranteed or preferential shares and dividends thereon are to be a charge upon and, in case of default by the bank, payable out of the Consolidated Fund of the colony; but if at any time any money shall be payable under the guarantee, the assets and property of the bank are to be security for the repayment of money so advanced; if the money be not repaid, the Colonial Treasurer may appoint a Receiver.

One-half of the sum of two million pounds authorised by the Act to be raised is to be at the disposal of the bank for use in its ordinary business, and the remainder is to be invested as the Colonial Treasurer may approve, or as may be specially provided by law. Until the guaranteed shares are called in and cancelled, no dividend is to be paid to ordinary shareholders without the

* By further Amendment Act these shares were to be issued in the form of negotiable stock certificates or warrants to bearer, of such amounts as the directors may determine. The certificates with warrants or coupons are transferable by delivery. The holders of stock certificates or warrants may exchange these for registered stock, which is made transferable in such amounts as directors may sanction. Shares or stock may be held by any person without limit as to number, provided that the total value does not exceed two millions sterling.

consent of the Colonial Treasurer, who is empowered to satisfy himself that any proposed dividend will not unduly affect the security of the colony in respect of the guarantee.

By section 5 of the Act, the Colonial Treasurer might require the directors to call up £500,000, being one-third of the reserve capital, within twelve months, and this has accordingly been done.

As provided by the Act, the head office of the bank has been removed to Wellington, and a new Board of directors elected. The Governor in Council has appointed a President, and an Auditor of the business outside the United Kingdom. An Auditor of the business within the United Kingdom has been appointed by the Agent-General.

If an unfavourable report by one or both of the Auditors, confirmed by the President, as to the conduct of the business of the bank, be received by the Colonial Treasurer, the directors are to amend the management in such manner as the Treasurer may demand in writing.

The shares held in the Bank of New Zealand Estates Company (Limited) by the bank are, pending the completion of liquidation, to be treated in valuing as at par.

"The Bank Shareholders Act, 1894," provides that the directors of any bank may decline to register any transfer of shares upon which there is any liability made by a shareholder to any person of whose responsibility they may not be satisfied. "The Bank Directors and Shares Transfer Act, 1894," gives authority to directors to refuse approval, without assigning reasons, to any transfer of shares on which there is liability. It limits the number of directors to not less than five or more than seven.

"THE BANK OF NEW ZEALAND AND BANKING ACT, 1895," AND ITS AMENDMENT ACT.

This Act was passed on the 4th of September, 1895. It provided for writing off the paid-up capital of the Bank of New Zealand (£900,000), together with the proceeds (estimated at £450,000) of the first call of £3 6s. 8d. on the reserve liability of £10 per share.

A sum of £500,000 new capital is raised by preferred shares, and issued to the colony in exchange for Government securities. The preferred shares bear interest at 3½ per cent. The bank may within six years repurchase them at par. Further share capital is created by a second call of one-third of the reserve liability (£3 6s. 8d. per share) in four instalments, and the final third may be called up at any time after the 31st December, 1898. The sum of one million pounds, required by the Share Guarantee Act of 1894 to be invested as the Colonial Treasurer might approve, is released for employment by the bank in its ordinary business. So long as the colony remains liable under the Act, one of the directors of the bank is to be appointed by the Governor, and one of the present directors is to resign to make way for the Government appointee.

An Assets Realisation Board is established to purchase all the assets of the Estates Company, and of the Auckland Agricultural Company, for the sum of £2,731,706, being the estimated value of the properties on the 31st of March, 1895, subject, however, to an adjustment of station accounts, the purchase-money to be paid in debentures issued by the Assets Board, having a nine years' currency and bearing interest at 3½ per cent. per annum from the 31st March, 1895; any deficiency to be guaranteed by the Government as a charge upon the Consolidated Fund of the colony.

Provision is made for securing the Government against loss on account of this guarantee, and the Colonial Treasurer may, in the event of any deficiency, appoint a Receiver in respect of the securities with the powers of a liquidator appointed by the Supreme Court. The Assets Realisation Board is a body corporate, consisting of three members, two appointed by the Governor and one chosen by the directors of the bank.

Section 3 of "The Banking Act, 1894," is repealed, and power is given to the Bank of New Zealand to purchase the business and assets of any other bank

doing business in the colony, excepting such assets as are found to be bad, doubtful, or valueless. Any such purchase is conditional on ratification by the shareholders of the selling bank and the approval of Parliament. [*The business of the Colonial Bank of New Zealand has since been purchased under the authority given, the contract being approved under the Amendment Act, of 1895, section 3, and subsequently ratified by the shareholders of the selling bank.*]

So long as the colony remains in any measure liable under the Act, or the Share Guarantee Act of 1894, the proprietors of the bank may not take any steps towards winding up or dissolving the bank.

The Assets Board are to draw up a balance sheet every six months, and lay the same before Parliament.

SAVINGS BANKS.

The number of post-offices open for the transaction of savings-bank business at the end of 1897 was 388.

There were 36,394 new accounts opened in the year, and 24,821 accounts were closed. The total number of open accounts at the end of 1897 was 159,331, of which 117,201 were for amounts not exceeding £20.

The deposits received during the year amounted to £3,187,219 2s. 4d., and the withdrawals to £2,891,169 5s. 8d., the excess of deposits over withdrawals having thus been £296,049 16s. 8d. The total sum standing at credit of all accounts on the 31st December, 1897, was £4,744,924 18s. 1d., which gave an average of £29 15s. 7d. to the credit of each account.

The following were the securities, &c., standing in the name of the Postmaster-General on account of the Post-Office Savings-Bank Fund on the 31st December, 1897 :—

Description of Securities, &c.	Nominal Value.			Value at Cost Price.		
	£	s.	d.	£	s.	d.
"Aid to Public Works and Land Settlement Act, 1896," Debentures at 8½ per cent. ..	250,000	0	0	250,000	0	0
Bank of New Zealand: Hokitika Harbour Board fixed deposit	300	0	0	300	0	0
"Consolidated Loan Act, 1867," Debentures, 4 per cent.	13,000	0	0	12,480	0	0
"Consolidated Stock Act, 1884," Debentures, 4½ per cent.	707,129	0	0	707,129	0	0
"Consolidated Stock Act, 1884," Debentures, 4 per cent.	91,837	0	0	91,837	0	0
"Consolidated Stock Act, 1884," Debentures, 3½ per cent.	562,200	0	0	562,200	0	0
"Defence and other Purposes Loan Act, 1870," Debentures, 4 per cent.	75,000	0	0	72,000	0	0
"Defence and other Purposes Loan Act, 1870," Debentures, 4½ per cent.	8,100	0	0	8,100	0	0
District Railways Purchasing Acts, 1885-86, Debentures, 4 per cent.	42,000	0	0	36,076	17	8
District Railways Purchasing Acts, 1885-86, Scrip, 4 per cent.	34,100	0	0	34,100	0	0
Dunedin Garrison Hall Debentures, 5 per cent.	6,000	0	0	6,000	0	0
"General Purposes Loan Act, 1873," Debentures, 4 per cent.	5,200	0	0	4,342	0	0
Carried forward	1,794,866	0	0	1,784,564	17	8

Description of Securities, &c.	Nominal Value.			Value at Cost Price.		
	£	s.	d.	£	s.	d.
Brought forward	1,794,866	0	0	1,784,564	17	8
" Government Loans to Local Bodies Act, 1886," Debentures, 3½ per cent. ..	176,000	0	0	176,000	0	0
Greymouth Harbour Board Debentures, 5 per cent.	50,000	0	0	50,000	0	0
Greymouth Harbour Board Debentures, 4½ per cent.	50,000	0	0	50,000	0	0
Hamilton Borough Debentures, 5½ per cent. ..	3,000	0	0	3,000	0	0
Hokitika Harbour Board Debentures, 5 per cent.	10,000	0	0	10,000	0	0
" Immigration and Public Works Loan Act, 1870," Debentures, 4 per cent.	174,200	0	0	167,272	0	0
" Immigration and Public Works Loan Act, 1870," Debentures, 4½ per cent.	20,900	0	0	20,527	10	0
Immigration and Public Works Loan 1870 Debentures, 4 per cent. (Imperial guaranteed)	400,000	0	0	400,000	0	0
Inscribed Stock, 3 per cent.	284,416	0	0	284,416	0	0
Land for Settlements Acts, 1892 and 1894, Debentures, 4 per cent.	129,100	0	0	129,100	0	0
" Land for Settlements Act, 1894," Debentures, 3½ per cent.	339,690	0	0	339,690	0	0
" Land for Settlements Act, 1892," Debentures, 4½ per cent.	45,276	0	0	45,276	0	0
" Lands Improvement and Native Lands Acquisition Act, 1894," Debentures, 4 per cent.	264,000	0	0	264,000	0	0
" Lands Improvement and Native Lands Acquisition Act, 1894," Debentures, 3½ per cent.	35,000	0	0	35,000	0	0
" Native Land Purchases Act, 1892," Debentures, 4½ per cent.	125,000	0	0	125,000	0	0
North Rakaia River Board Debentures, 5 per cent.	1,500	0	0	1,500	0	0
Oamaru Borough Consolidated Loan 1893 Debentures, 5 per cent.	13,800	0	0	13,800	0	0
Oamaru Harbour Bonds, 5½ per cent.	32,000	0	0	32,000	0	0
Oamaru Harbour Advances, 1887, 5 per cent.	30,000	0	0	30,000	0	0
Patea Harbour Board Debentures, 4½ per cent.	10,000	0	0	10,000	0	0
Thames Borough Debentures, 6 per cent.	6,500	0	0	6,500	0	0
Thames Harbour Board Debentures, 5 per cent.	10,000	0	0	10,000	0	0
" Public Revenues Act, 1893" (Treasury Bills), 3½ per cent.	289,200	0	0	289,200	0	0
Westport Harbour Board Debentures, 4½ per cent.	32,000	0	0	32,000	0	0
Westport Harbour Board Debentures, 5 per cent.	339,200	0	0	339,200	0	0
Totals	4,665,648	0	0	4,648,046	7	8

There are seven savings-banks in the colony not connected with the Post Office. The total amount deposited in them in 1897 was £485,185 12s. 10d., of which the deposits by Maoris comprised £199 10s. 2d. The withdrawals reached the sum of £487,742 10s. 2d., exceeding the total deposits by £2,556 17s. 4d. The total amount to the credit of the depositors at the end of the year was £775,154 12s. 8d., of which sum £169 7s. 5d. belonged to Maoris.

SUMMARY OF ALL DEPOSITS.

If the total deposits at the end of the year be assumed to be equal to the average for the last quarter, then it may be affirmed that, exclusive of Government moneys, the deposits in the several banks of issue and in the two classes of savings-banks amounted at the end of 1897 to £18,658,827. In addition, there are the deposits with building societies, which in 1896 were £200,546, and it is known that there were also deposits with financial companies, of which no particulars have been supplied to the department. The known deposits reach an average of £25 17s. 4d. per head of the population, exclusive of Maoris.

BUILDING SOCIETIES.

There were 65 registered building societies in operation in the colony at the end of 1896. Of these, 21 were terminable societies, the rest were permanent.

The total receipts by these societies during their financial year were £601,782, of which deposits comprised £200,546.

The assets at the end of the year were valued at £922,819. The total liabilities were: To shareholders, reserve fund, &c., £711,563; to depositors, £202,347; and to bankers and other creditors, £8,409.

MORTGAGES.

The total number of mortgages registered (excluding moneys lent under the Government Advances to Settlers Act) in the year 1895-96 was 9,413, representing an amount of £5,573,790. The total sum was advanced as under:—

£	
1,344,833	by 7,866 mortgages not exceeding £500 each.
793,552	by 1,085 " between £500 and £1,000 each.
1,728,200	by 823 " between £1,000 and £5,000 each.
1,707,205	by 139 " over £5,000 each.

The full amounts borrowed, classified to show the various rates of interest paid, were:—

£	
26,285	in small sums at less than 5 per cent.
893,226	at from 5 per cent. to 5½ per cent.
732,764	at 5½ per cent.
116,600	at 5¾ per cent.
1,372,261	at from 6 per cent to 6½ per cent.
371,896	at from 6½ per cent. to 6¾ per cent.
599,542	at from 7 per cent. to 7½ per cent.
111,651	at 7½ per cent.
382,348	at 8 per cent.
173,416	in small sums, at rates above 8 per cent.
853,801	at rates which are not specified.

Similar information for a later year was applied for, but is not procurable, as the return presented to Parliament from which the above figures are taken was a special one, and there has been no order for its continuance.

FRIENDLY SOCIETIES.

The Registrar of Friendly Societies received returns for the year 1896 from 392 lodges, courts, tents, &c., of various friendly societies throughout the colony. The number of members at the end of 1896 was 31,825.

The total value of the assets of these societies was £611,826, equivalent to £19 4s. 6d. per member. Of the total assets, the value of the sick and funeral benefit funds was £562,862.

The receipts during the year on account of the sick and funeral funds amounted to £73,545, and the expenditure to £49,781, of which the sick-pay to members reached the sum of £31,642. In addition to the sick-pay, the sum of £29,819 was paid out of the medical and management expenses fund for attendance given and medicine supplied to the members and their families.

LIFE INSURANCE.

There were existing in the colony at the close of the year 1896 as many as 72,193 life insurance policies, an average of nearly 119 in every 1,000 persons living. The gross amount represented by these policies was £19,097,456, an average of £264 10s. 8d. for each policy, and of £26 14s. 10d. for every European inhabitant of the colony at the end of the year. The distribution of these policies among the various life assurance offices is shown in the following table:—

Name of Office.	Number of Years of Business in the Colony.	New Zealand Business only.	
		Number of existing Policies at End of Year 1896.	Gross Amount insured by Policies at End of Year 1896.
			£ s. d.
The Australian Mutual Provident Society	35	22,279	6,474,661 0 0
The Citizens' Life Assurance Company (Limited)	3	645	77,450 0 0
The Colonial Mutual Life Assurance Society (Limited)	13	3,961	1,073,144 1 11
The Equitable Life Assurance Society of the United States	12	767	329,081 0 0
The Mutual Assurance Society of Victoria (Limited)	13	1,518	292,154 17 11
The Mutual Life Association of Australasia	20	4,043	1,048,618 5 0
The National Mutual Life Association of Australasia (Limited)	17	4,051	984,397 9 8
The New York Life Insurance Company	10	157	61,145 0 0
The Life Insurance Department of the New Zealand Government	27	34,772	8,754,804 0 0
Totals	..	72,193	19,097,455 14 6

It will be observed that nearly half the policies are held in the Government Life Insurance Department. A special article concerning this institution will be found in Part III. of this book.

INDUSTRIAL LIFE ASSURANCE.

In addition to the ordinary life insurance transactions alluded to above, there were in 1896 two industrial life assurance offices doing business in New Zealand. The number of policies in existence and the gross amount insured by such policies at the end of the year were :—

Name of Office.	Number of Years of Business in the Colony.	New Zealand Business only.	
		Number of existing Policies at End of Year 1896.	Gross Amount insured by Policies at End of Year 1896.
The Citizens' Life Assurance Company (Limited)	3	10,231	£ 252,696 s. 3 d. 1
The Provident and Industrial Insurance Company of New Zealand	7	7,946	185,244 11 11
Totals	..	18,177	437,940 15 0

THE PUBLIC TRUST OFFICE.

This important institution is fully described in a special article. The number of estates in it increased from 1,678 in 1890 to 2,334 in 1897, while the total value rose from £1,240,097 to £1,898,163 during the same period.

Classifying the business for the year ended 31st March, 1897, the results are :—

	No. of Estates.	Value of Estates.
Wills and bequests (including sinking fund accounts)	466	744,742
Intestate estates	781	88,751
Real estates	86	11,161
Lunatic estates	510	88,133
Native reserves	112	355,000
West Coast Settlement Reserves	293	600,000
Unclaimed lands	86	10,376

PRIVATE WEALTH.

The number and value of estates of deceased persons finally certified on which duty was paid during the years 1895, 1896, and 1897 are shown classified according to amount :—

Value of Estates.	1895.		1896.		1897.	
	Number of Estates.	Aggregate Value on which Duty was Paid.	Number of Estates.	Aggregate Value on which Duty was Paid.	Number of Estates.	Aggregate Value on which Duty was Paid.
£ 100 to £ 500 ..	392	£ 89,092	431	£ 123,283	672	£ 126,146
500 " 1,000 ..	134	97,210	160	112,430	171	120,438
1,000 " 2,000 ..	107	150,151	113	159,416	108	153,708
2,000 " 3,000 ..	37	90,950	45	107,940	39	95,904
3,000 " 4,000 ..	27	92,868	20	68,656	39	132,793
4,000 " 5,000 ..	18	79,387	10	45,816	19	85,781
5,000 " 7,500 ..	18	113,204	19	112,335	32	197,396
7,500 " 10,000 ..	11	91,756	17	145,472	13	114,477
10,000 " 15,000 ..	6	76,463	14	163,840	13	156,020
15,000 " 20,000 ..	5	88,234	8	139,988	12	199,686
20,000 and over ..	12	594,991	18	987,180	10	598,392
Totals ..	767	1,564,306	855	2,166,356	1,128	1,980,741

The number of estates admitted to probate, and the number of adult deaths in each year, 1893 to 1897, were:—

Year.	Number of Estates.	Number of Adult Deaths.	Proportion per Cent. of Adults who died leaving Property on which Duty paid.
1893	544	3,605	15.09
1894	609	4,148	14.68
1895	767	4,038	19.02
1896	855	3,944	21.68
1897	1,128	4,258	26.49

From this it will be seen that no less than 26 out of every 100 adults who died during the year 1897 left property subject to estate duty.

On these data it is possible to compute roughly the total value of private property in the colony. This method of estimating the private wealth of a people by means of the probate returns may not be strictly accurate, and is indeed strongly objected to by some statisticians, but it was nevertheless selected by the late Professor Mainwaring Brown as the best and most trustworthy plan. Calculations of the wealth of the living on the proportional basis of amounts left by the dead have not been considered satisfactory in some of the Australian colonies, but in New Zealand, where wealth is more evenly distributed, the results have proved fairly comparable year by year, and for all practical purposes may be accepted as a good indication of the facts. Dividing the aggregate amount admitted to probate during a series of years by the number of deaths occurring within the same period, the average value of property left by each person dying is obtained. On the assumption

that the average wealth of each person living is equal to that left by each person dying, the total aggregate private wealth may readily be found by multiplying the average amount left at death by the number of persons living. It is necessary for this calculation to take the average results for a series of years, as any inference drawn from the figures of a single year would be untrustworthy; for an increase in the death-rate must necessarily give a corresponding decrease in the estimated wealth, unless the value of estates admitted to probate maintains year by year the same ratio to the number of deaths. An epidemic among young children who have no property to leave would unduly lower the average; while, on the other hand, the deaths of a few wealthy persons would raise it abnormally. It must also be remembered, when using these figures for comparative purposes, that the lowness of the death-rate in New Zealand is in great measure due to the small mortality among infants. By putting the figures for several years together, and taking the average for the term, fairly correct results may be arrived at, as thus:—

Years, inclusive.	Amount sworn to.	Total Number of Deaths.	Average Amount left by each Person.	Average Number of Persons living.	Average Total Wealth for each Year of the Period.
1893-97	£ 8,463,648	33,575	£ 252 s. 1 d. 8	692,283	£ 174,511,998

It is manifest, however, that this average does not exhibit with sufficient accuracy the actual *present* amount of wealth. If the average amount per head were the same at the end of the year 1897 as for the period 1893-97—viz., £252·082—then the total wealth possessed by the 729,056 persons in the colony on the 31st December of that year would be £183,781,780.

These figures, however, fall short of the full amount of private wealth, as the values sworn to do not include those estates on which no stamp duty is payable—viz., land and goods passing to the husband or wife of the deceased, and properties under £100. The total of these must be considerable, and should give a substantial increase to the average amount per head, and therefore to the total wealth.

The estimated private wealth for each year since 1888 is shown by the following figures:—

Year.	Amount.	Average per Head.
1888	£ 131,345,925	£ 216
1889	.. 133,135,134	.. 215
1890	.. 142,631,461	.. 228
1891	.. 145,780,502	.. 230
1892	.. 152,065,087	.. 236
1893	.. 156,058,273	.. 232
1894	.. 154,715,821	.. 225
1895	.. 152,918,021	.. 219
1896	.. 170,007,843	.. 238
1897	.. 183,781,780	.. 252

The Government Statistician of New South Wales estimated the private wealth of the seven colonies of Australasia for the year 1890 at £1,169,434,000.

It is interesting to compare this estimate of the wealth of the Australasian Colonies with the results of similar calculations for other parts of the world. A table giving this information for various countries has accordingly been introduced; but, in comparing the wealth of one country with another, it must be remembered that the purchasing-power of money in different parts of the world varies considerably, and without information on this head bare statements of wealth per inhabitant are of very little use, and often misleading. Besides this, the question as to what extent Government undertakes such functions as the construction and working of railways disturbs comparisons of private wealth. The figures are for the most part taken from Mulhall's "Dictionary of Statistics":—

WEALTH OF PRINCIPAL COUNTRIES.

Country.	Private Wealth.	Average Amount per Head of Population.
	£	£
United Kingdom	9,400,000,000	247
France	8,598,000,000	222
Germany	6,437,000,000	133
Russia	5,083,000,000	55
Austria-Hungary	3,855,000,000	96
Italy	2,963,000,000	98
Spain	2,516,000,000	143
Portugal	408,000,000	83
Sweden and Norway	880,000,000	122
Denmark	404,000,000	192
Holland	980,000,000	213
Belgium	1,007,000,000	165
Switzerland	494,000,000	165
United States	12,824,000,000	205
Canada	980,000,000	196

In the year 1885 the property-tax returns gave £40,304,000 as the value of public property in the colony, including Crown lands, educational, municipal, and other reserves, with public works—namely, railways, telegraphs, lighthouses, buildings, harbour-works, and water-supply on goldfields. In 1888 the value of the above had risen to £42,505,000, and it is supposed that in 1895 the sum would probably be about £45,000,000. There are also from nine to ten millions of acres of lands the property of the Maoris. In 1888 the Native lands were valued at £3,000,000 sterling. The present value is probably not so much; some land has been sold, but, on the other hand, some of that retained may have increased in value. When the results of the work now in progress under the new Valuation Act are made known by the Valuer-General, more accurate figures than those given above will be available.

EARNINGS AND INCOME.

The amount of the aggregate annual earnings of the people of New Zealand is given in the Year-book of 1897 (p. 283). To arrive

at this estimate the method adopted was to allot to each person the probable income earned in respect of the occupation set down against his or her name in the household schedules collected at the census of 12th April, 1896. Exception may no doubt be taken to the plan of basing a calculation on a series of arbitrary assumptions, but there is precedent for such a course. The results of the calculation were given without any guarantee of accuracy, similar figures having been called for in the past. Indeed it is important to make clear that the figures must only be considered as put forward with the greatest diffidence, and rather of necessity than otherwise. They may indeed give a fair idea of the facts, but the responsibility of using them for any particular purpose is not accepted by the Registrar-General.

WAGES.

The aggregate of wages paid in the colony for the year 1896, as given in the Year-book of 1897 (p. 284), was arrived at by assigning to each wage-earner the probable annual income each would derive from the profession or occupation followed. As in the case of income, the calculations made were put forward merely by way of an attempt to get as closely as possible to the facts, and because asked for; but no assurance whatever can be given as to the exactness of the conclusions stated, and the Registrar-General does not accept any responsibility in regard to their use.

COST OF LIVING.

An estimate made in 1894 of the cost of living in New Zealand showed a total expenditure of £23,349,623. This sum included, besides what was spent on necessities—food, drink, clothing, fuel, light, rent, and furniture—the additional outlay on luxuries, *e.g.*, books, pictures, amusements, &c., and on things of occasional necessity, such as stimulants, medical comforts, personal attendance, and the like. The rate arrived at per head of population was £35 6s. 1d.; and this may fairly be taken as the probable average for 1897.

The average income per head was previously shown to be from £37 12s. to £44.

Mr. Mulhall, in his "Dictionary of Statistics," gives the average expenditure per head of population for various countries specified as follows:—

Country.	Average Expenditure per Head. £ s. d.	Country.	Average Expenditure per Head. £ s. d.
United Kingdom	.. 29 14 9	Norway	.. 19 0 0
France	.. 23 19 4	Denmark	.. 28 11 5
Germany	.. 20 3 4	Holland	.. 20 17 4
Russia	.. 10 1 11	Belgium	.. 25 8 2
Austria	.. 14 4 9	Switzerland	.. 18 0 0
Italy	.. 11 11 0	United States	.. 32 16 2
Spain	.. 15 12 6	Canada	.. 23 6 2
Portugal	.. 11 5 6	Australia	.. 33 10 3
Sweden	.. 20 8 4	Argentina	.. 27 9 1

The estimate for Australasia, as made in 1894 by Mr. Coghlan, then Government Statistician of New South Wales, was as high as £43 12s. 10d. per head.

Below are shown the quantities used per head of population in New Zealand of some of the main articles of consumption. The figures are averages for five years :—

AVERAGE ANNUAL CONSUMPTION.

Food, Drinks, and Stimulants.

Articles.					Average per Inhabitant.
Wheat	..	..	..	..	.. bush. 6·00
Beef	..	..	..	..	.. lb. 107·20
Mutton	..	..	..	..	.. lb. 126·00
Butter	..	..	..	..	.. lb. 17·10
Cheese	..	..	..	..	.. lb. 4·40
Milk	..	..	..	..	.. gal. 22·50
Cocoa and chocolate..	..	..	..	..	.. lb. 0·43
Coffee and chicory ..	..	..	..	..	.. lb. 0·46
Tea	..	..	..	..	.. lb. 5·88
Sugar	..	..	..	..	.. lb. 81·76
Rice	..	..	..	..	.. lb. 8·39
Fruits, dried (imported)	..	..	..	..	.. lb. 6·72
Fruits, fresh (imported)	..	..	..	..	.. lb. 22·06
Mustard	..	..	..	..	.. lb. 0·28
Pickles	..	..	..	..	.. doz. pts. 0·02
Sauces	..	..	..	..	.. doz. pts. 0·02
Spices and pepper ..	..	..	..	..	.. lb. 0·53
Salt	..	..	..	..	.. lb. 33·98
Vinegar	..	..	..	..	.. gal. 0·12
Tobacco, snuff, cigars	..	..	..	..	.. lb. 1·99
Spirits	..	..	..	..	.. gal. 0·69
Wine	..	..	..	..	.. gal. 0·16
Beer	..	..	..	..	.. gal. 7·69

Other Articles.

Kerosene	..	..	..	..	.. gal. 2·19
Soap (imported) ..	..	..	..	..	.. lb. 0·55
Soap, New Zealand ..	..	..	..	..	.. lb. 14·58
Candles (imported) ..	..	..	..	..	.. lb. 2·54
Candles, New Zealand	..	..	..	..	.. lb. 2·66
Matches	..	..	..	..	.. gross 0·17
Soda, carbonate ..	..	..	..	..	.. lb. 0·19
Soda, crystals ..	..	..	..	..	.. lb. 0·73
Coal	..	..	..	..	.. tons 1·11

PRICES AND WAGES.

The average prices of produce, live-stock, provisions, &c., in each provincial district are given for the year 1897 in tabular form on pages 291 and 292. While the variations for the different districts are such as to render it in most cases inadvisable to show averages for the colony, this has nevertheless been done for the staples of food, *i.e.*, bread, meat, and milk, also for tea and sugar, which may almost be called necessities. Averages for the colony, taken out for the years 1877, 1887, 1890, and 1897, indicate a decline in prices with the advance of time. In striking these, prices on the goldfields have not been taken into account:—

—				1877.	1887.	1890.	1897.
				s. d.	s. d.	s. d.	s. d.
Bread	..	..	per lb.	0 2½	0 1½	0 1½	0 1½
Beef	..	..	per lb.	0 5½	0 3½	0 8	0 3
Mutton	..	..	per lb.	0 4	0 2½	0 2½	0 2
Sugar	..	..	per lb.	0 5½	0 3	0 3½	0 2½
Tea	..	..	per lb.	3 0	2 3	2 3	2 0
Butter (fresh)	..	..	per lb.	1 3	1 0	0 8	0 8
Cheese (colonial)	..	..	per lb.	0 10	0 5½	0 5½	0 6
Milk	..	..	per quart.	0 4½	0 3	0 3½	0 3

RATES OF WAGES.

The average rates of wages paid in 1897 in each provincial district for agricultural, pastoral, artisan, and servants' labour are given on pages 293 to 296.

AVERAGE PRICES OF PRODUCE, LIVE-STOCK, PROVISIONS, ETC., IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1897.

Produce, &c.		Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
I. AGRICULTURAL PRODUCE.										
Wheat ..	.. per bushel (60lb.)	4/6	4/6	4/6	4/6	4/	4/6	4/6	4/2	3/3 to 5/6
Barley ..	.. per bushel (50lb.)	3/	4/6	2/9	2/8	3/5	3/6	3/6	8/9	3/6 to 4/
Oats ..	.. per bushel (40lb.)	2/9	2/8	2/7	2/6	2/6	2/6	2/9	1/11 to 3/6	1/11 to 3/6
Maize ..	.. per bushel (56lb.)	3/3	3/3	3/6	3/6	4/	4/	4/	3/6	3/6
Brass ..	.. per bushel (20lb.)	9d.	11d.	1/1	1/2	10d.	1/	1/	7d.	9d. to 2/
Hay ..	.. per ton	£4	£3	£4	65/ to 90/	£2	£3/10	£5	£4	£3
II. FLOUR AND BREAD.										
Flour, wholesale	.. per ton of 2,000lb.	£12	£12/15	£12	£11/10 to £13	£12	£11	£12	£12	£11 to £14
Flour, retail	.. per bag of 50lb. ..	6/6	7/	6/9	6/6 to 7/	6/6	6/6	6/6	6/6	5/9 to 7/6
Bread ..	.. per 4lb. loaf ..	6d.	7d. to 8d.	6d.	6d. to 7d.	7d.	7d.	7d.	6d.	6d. to 8d.
III. LIVE-STOCK AND MEAT.										
Horses, draught	.. per head	£15 to £40	£10 to £20	£25	£15 to £30	£18	£30	£20	£15 to £30	£14 to £30
Horses, saddle and harness	.. per head	£5 to £20	£7 to £30	£8 to £12	£5 to £15	£12	£20	£12	£5 to £20	£7 to £18
Cattle, fat	.. per head	£6 to £8	£5/10	£5/10	£4 to £6	£5	£5	£8	£6	£7/10
Cattle, milch cows	.. per head	£6	£4	£3/15	£6 to £10	£4	£6	£6/10	£4 to £5/10	£4 to £6
Sheep, fat ..	.. per head	8/ to 12/	9/	11/	8/ to 12/	8/	7/6	14/	10/ to 14/	8/ to 10/6
Lambs, fat	.. per head	6/ to 10/	7/	6/6	5/6 to 7/	7/6	8/	11/	10/ to 13/	8/ to 9/6
Butchers' meat:										
Beef ..	.. per lb. ..	2d. to 5d.	4d.	4d.	2d. to 5d.	8d.	8d.	4d.	4d.	3d. to 6d.
Mutton ..	.. per lb. ..	1d. to 3d.	3d.	2d.	2d. to 4d.	2d.	3d.	4d.	3d.	2d. to 4d.
Veal ..	.. per lb. ..	4d.	4d.	4d.	4d. to 5d.	4d.	4d.	4d.	8d.	5d.
Pork ..	.. per lb. ..	5d.	5d.	5d.	4d. to 6d.	4d.	5d.	4d.	5d.	4d. to 6d.
Lamb ..	.. per lb. ..	5d.	4d.	4d.	3d. to 6d.	4d.	8d.	4d.	4d.	8d. to 6d.
IV. DAIRY PRODUCE.										
Butter, fresh	.. per lb. ..	1/	9d.	1/	8d. to 1/2	7d.	8d.	1/	8d.	8d. to 1/2
Butter, salt	.. per lb. ..	8d.	7d.	7d.	6d. to 7d.	6d.	7d.	10d.	6d.	8d. to 1/
Cheese, colonial	.. per lb. ..	6d.	7d.	7d.	4d. to 7d.	4d.	7d.	7d.	4d.	4d. to 5d.
Cheese, imported	.. per lb. ..	1/	8d.	..	7d. to 1/6	6d.	10d.	1/	1/	..
Milk ..	.. per quart	3d.	3d.	3d.	2d. to 3d.	3d.	4d.	5d.	3d.	2d. to 4d.

AVERAGE PRICES OF PRODUCE, ETC.

AVERAGE PRICES OF PRODUCE, LIVE-STOCK, PROVISIONS, ETC., IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1897—continued.

Produce, &c.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
V. FARM-YARD PRODUCE.									
Geese .. per pair	6/	7/	6/	5/ to 6/	5/	5/	7/6	5/	6/ to 8/
Ducks .. per pair	4/	4/6	5/	3/6 to 4/6	8/	3/	6/	4/	4/6 to 6/
Fowls .. per pair	3/6	4/	3/	2/6 to 4/3	2/3	3/	3/6	3/	3/6 to 4/
Turkeys .. per head	6/	6/	6/	4/ to 7/6	5/	8/6	10/	5/	5/ to 6/5
Bacon .. per lb.	8d.	9d.	9d.	8d.	8d.	8d.	8d.	6d.	6d. to 8d
Ham .. per lb.	10d.	10d.	10d.	7d. to 10d.	9d.	9d.	9d.	8d.	10d.
Eggs .. per doz.	1/	1/	1/	10d. to 1/3	9d.	9d.	1/6	7d.	10d. to 1/3
VI. GARDEN PRODUCE.									
Potatoes, wholesale .. per ton	£6	£6	£4	£3 to £6 11/	£1 7/6	£6	£6 10/	£2 5/	£2 15 to £3
Potatoes, retail .. per cwt.	6/	6/	4/	4/ to 7/	1/6	7/6	7/	2/8	3/6 to 7/
Onions .. per lb.	1d.	2d.	1d.	1d.	1d.	1d.	2d.	1d.	1d. to 2d.
Carrots .. per doz. bunchs.	1/	1/	1/3	1/	1/	2/	3/	1/	1/
Turnips .. per doz. bunchs.	1/	1/	1/3	1/	1/	2/	3/	1/	1/
Cabbages .. per doz.	1/6	2/	2/6	2/6	2/	2/	3/	1/	1/3 to 3/
VII. MISCELLANEOUS ARTICLES.									
Tea .. per lb.	1/10	2/ to 2/6	1/8 to 2/10	2/	2/	2/	2/	1/6 to 3/	1/9 to 2/6
Coffee .. per lb.	1/8	2/	1/9	1/9	1/9	1/9	1/10	1/4 to 2/	1/6 to 1/9
Sugar .. per lb.	2d.	2d.	2d.	2d. to 3d.	2d.	2d.	3d.	2d.	2d. to 3d.
Rice .. per lb.	3d.	3d.	3d.	2d. to 3d.	3d.	3d.	3d.	2d.	2d. to 3d.
Salt .. per lb.	1d.	1d.	1d.	1d.	1d.	1d.	1d.	1d.	1d. to 2d.
Soap .. per cwt.	12/ to 21/	11/6	17/ to 24/	14/ to 18/	16/	16/	14/3	14/3	14/6 to 18/
Candles .. per lb.	8d.	8d.	9d.	6d. to 8d.	8d.	7d.	8d.	6d.	6d. to 9d.
Tobacco .. per lb.	5/6	6/	5/2 to 6/	4/9 to 6/6	5/6	5/6	5/6	6/	5/ to 6/6
Coal .. per ton	25/	40/	36/	28/ to 35/	38/	31/	19/	30/	16/ to 30/
Firewood .. per cord	35/	40/	32/	17/ to 36/	25/	30/	25/	40/	16/ to 32/
VIII. BEER, WINE, SPIRITS.									
Beer, colonial .. per hhd.	£4	£4/5	£4/10	£4 to £4/10	£4/13	£5	£4/10	£4	£4 to £5
Beer, English, bottled .. per doz. qts.	14/	15/	14/6	12/ to 15/	14/6	13/	15/	18/	14/ to 18/
Brandy .. per gallon	27/	32/	34/	26/ to 30/	25/	25/	26/	26/	22/6 to 28/
Rum .. per gallon	27/	30/	30/	23/ to 30/	25/6	23/	25/	22/	22/6 to 24/
Whisky .. per gallon	27/	32/	36/	25/ to 30/	28/	25/	25/	24/	24/ to 27/
Gin .. per gallon	24/	23/6	26/	20/ to 28/	20/	20/	24/	23/	18/ to 25/
Wine, Australian .. per gallon	13/6	21/	20/	15/ to 30/	12/6	12/6	18/	20/	11/ to 18/
Wine, European .. per gallon	20/	21/	25/	18/ to 45/	16/	18/	18/	25/	17/ to 22/

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1897.

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
1. AGRICULTURAL LABOUR.									
Farm-labourers:									
With board, per week	12/ to 15/ 5/	15/ to 20/ 6/	15/ to 20/	15/ to 20/ 6/	20/	20/ 5/	25/	15/ to 20/ 5/	12/6 to 20/ 5/ to 7/
Without board, per day	..	..	..	..	..	..	..	..	..
Ploughmen:									
With board, per week	15/ to 17/6 6/	20/ to 25/ 7/	25/	20/ to 25/	20/	..	30/	17/ 5/	15/ to 20/
Without board, per day	..	..	..	..	..	..	..	..	..
Harvesters:									
With board, per week	20/ to 25/	20/ to 30/ 6/ to 8/	25/ to 30/	20/ to 25/ 6/ to 8/	..	..	..	30/ to 40/	20/ to 30/ 8/
Without board, per day	..	..	..	..	..	..	..	..	..
Men-cooks on farms:									
With board, per week	15/ to 20/	15/ to 20/	25/	20/ to 30/	25/	20/	20/	20/	20/ to 25/
Female farm-servants:									
With board, per week	12/	8/ to 15/	15/	12/ to 15/	10/	10/	12/	8/ to 12/	10/ to 12/6
2. PASTORAL LABOUR.									
Shepherds, with board, per annum	£50 to £55	£45 to £70	£65 to £78	£70 to £80	£52	£52	..	£52 to £85	£52 to £65
Stockkeepers, with board, per annum	£50 to £60	£45 to £70	£65 to £78	£60 to £78	£52	£52	..	£52	£52 to £60
Station-labourers:									
With board, per week	10/ to 15/	15/ to 20/	20/ to 25/	15/ to 25/	20/	20/	..	15/ to 20/	15/ to 20/
Without board, per day	16/8 to 20/	17/6	17/6 to 20/	17/6 to 20/	15/ to 17/6	17/	..	16/8	15/ to 17/6
Shearers, with board, per 100 sheep shorn	20/	15/ to 20/	20/ to 30/	20/ to 30/	12/ to 20/	20/	..	20/ to 25/	15/ to 30/
Men-cooks on stations, with board, per week									
3. ARTISAN LABOUR (per day, without board).									
Masons	8/	..	11/	12/	..	10/	12/	8/ to 10/	10/ to 12/
Plasterers	8/	..	11/	12/	..	10/	12/	8/ to 10/	10/ to 12/

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1897—continued.

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (part Goldfield).
3. ARTISAN LABOUR (per day, without board)—continued.									
Bricklayers ..	8/ to 9/	8/ to 12/	10/ to 12/	12/	10/	9/	12/	8/ to 10/	9/6 to 10/
Carpenters ..	7/ to 9/	8/ to 10/	9/ to 11/	9/ to 10/4	9/	9/	10/ to 11/	10/ to 8/	9/ to 10/
Smiths ..	7/	9/	9/6	7/ to 10/	10/	10/	10/	7/ to 8/	8/ to 10/
Shipwrights ..	8/	10/ to 10/	10/ to 11/	10/ to 12/	10/	9/	10/	7/ to 8/	12/
Plumbers ..	7/	8/ to 9/	9/ to 11/	9/ to 10/	10/	8/	10/	8/ to 10/	9/ to 10/
Painters ..	7/	8/	8/ to 10/	8/ to 10/	8/	8/	8/	7/ to 8/	7/6 to 9/
Saddlers ..	7/	8/	9/ to 10/	7/6 to 10/	8/6	8/	9/	6/ to 7/	8/ to 9/
Shoemakers ..	6/6	8/	7/6 to 8/5	6/ to 9/	8/	8/	8/	7/ to 10/	7/ to 8/
Coopers ..	6/ to 7/	7/ to 10/	10/	6/ to 10/	10/	9/	10/	8/ to 10/	8/ to 8/6
Watchmakers ..	8/	10/	8/ to 9/	8/6 to 11/6	10/	10/6	10/	10/ to 12/	7/6 to 10/
4. SERVANTS.									
Married couples without family, with board, per annum	£32 to £60	£60 to £90	£80 to £90	£70 to £90	£65	£60	£70	£78	£65 to £75
Married couples with family, with board, per annum	£40 to £45	£60 to £70	£80 to £85	£55 to £70	..	£50	£50	£60	£60 to £70
Grooms, with board, per week	15/ to 20/	15/ to 20/	20/ to 25/	15/ to 25/	20/	20/	20/	20/	15/ to 20/
Gardeners:									
With board, per week	15/ to 20/	15/ to 20/	25/	15/ to 30/	25/	25/	25/	25/	15/ to 30/
Without board, per day	20/	10/ to 25/	15/ to 20/	7/	7/	15/	8/	7/	6/ to 8/
Cooks, with board, per week	15/ to 20/	12/ to 15/	12/ to 14/	12/ to 25/	20/	15/	20/ to 40/	20/ to 40/	12/ to 30/
Laundresses, with board, per week	10/ to 12/	8/ to 12/	6/ to 12/	10/ to 15/	14/	6/ to 10/	15/	12/ to 15/	12/ to 15/
General house-servants, with board, per week	12/	8/ to 15/	8/ to 12/	10/ to 20/	8/	12/	6/ to 12/	8/ to 10/	10/ to 12/6
Housemaids, with board, per week	12/	5/ to 10/	2/6 to 8/	5/ to 10/	10/	5/ to 7/	10/ to 15/	8/ to 12/	10/ to 15/
Nursemaids, with board, per week	6/	5/ to 10/	2/6 to 8/	5/ to 10/	6/	5/ to 7/	5/ to 7/6	5/ to 10/	5/ to 8/

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1897—continued.

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Marlborough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
4. SERVANTS—continued.									
Needlewomen: With board, per week ..	..	..	18/ ..	15/ 3/	.. 3/	.. 3/	15/ 3/6	15/ 3/ to 4/	.. 3/
Without board, per day (lunch always provided)	8/	8/	..	3/	3/	3/	3/6	3/ to 4/	3/
5. MISCELLANEOUS.									
General labourers, without board, per day	6/	6/ to 8/	7/	5/ to 9/	7/	7/	9/	5/ to 7/	6/ to 9/
Stonebreakers, without board, per cubic yard	3/6 to 4/6	..	1/8 to 2/	2/6 to 3/3	2/6	5/	..	2/6	2/ to 4/
Seamen, with board, per month ..	£4 to £6	..	£7	£3 10/- to £8 10/	£6	£6	£6	£4 to £7	£3 10/ to £7
Miners, without board .. per day	8/	..	..	..	10/	9/	10/	..	8/ to 10/
Engine-drivers, without board, per day	7/ to 9/	..	10/ to 11/	8/	..	7/6	12/	10/ to 12/	.8/ to 11/
" " " " " "	..	30/ to 40/	..	50/	50/	..	..	..	..
Tailors, without board, per day	..	..	10/	9/	..	8/	10/	7/ to 8/	7/ to 10/
" " " " " "	40/ to 55/	50/ to /60	..	50/ to 55/	35/- to 50/	..	50/	..	..
Tailoresses, " " " "	..	..	..	..	..	..	5/	4/ to 5/	4/6
Dressmakers, " " " "	15/ to 27/6	25/	21/	20/ to 35/	20/	20/	25/	..	..
" " " " " "	3/	15/ to 20/	..	15/ to 25/	20/	..	5/	3/6 to 4/	3/6
Milliners, " " " "	..	..	20/ to 25/	..	..	80/	15/	..	20/
" " " " " "	8/6	20/ to 30/	..	15/ to 40/	90/	35/	90/	4/ to 5/	4/
" " " " " "	..	..	20/ to 30/	..	..	..	..	..	25/

AVERAGE RATES OF WAGES IN EACH PROVINCIAL DISTRICT OF NEW ZEALAND DURING THE YEAR 1897—continued.

Description of Labour.	Auckland.	Taranaki.	Hawke's Bay.	Wellington.	Martins-borough.	Nelson.	Westland (Goldfield).	Canterbury.	Otago (Part Goldfield).
5. MISCELLANEOUS—continued.									
Machinists, per day	3/6	15/ to 20/	25/ to 30/	20/ to 30/	20/	15/	15/	2/6 to 3/	3/6
" per week	..	..	..	..	50/	60/	50/	..	..
Storekeepers, per day	7/	40/ to 50/	35/ to 60/	66/	50/	60/	50/	6/ to 7/	30/ to 40/
" per week	..	..	..	..	35/	35/	40/	3/ to 5/	20/ to 30/
" assistants, per day	5/6	30/ to 50/	30/ to 40/	30/ to 45/	55/	42/	50/	5/ to 7/	30/ to 40/
" per week	..	40/ to 50/	30/ to 60/	20/ to 40/	40/	40/	50/	6/ to 7/	20/ to 30/
Drapers' assistants, per day	5/6	25/ to 45/	30/ to 60/	30/ to 40/	35/	40/	40/	6/ to 7/	40/ to 50/
" per week	..	40/ to 45/	45/	35/ to 50/	35/	40/	60/	5/ to 7/	8/
Grocers' assistants, per day	5/6	20/ to 40/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
" per week	..	30/ to 35/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
Butchers, per day	30/ to 40/	20/ to 40/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
" per week	..	30/ to 35/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
Bakers, per day	30/ to 40/	20/ to 40/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
" per week	..	30/ to 35/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
Storemen, per day	30/ to 40/	20/ to 40/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
" per week	..	30/ to 35/	45/	35/ to 60/	35/ to 50/	35/ to 50/	60/	6/ to 7/	8/
Compositors, per day	40/ to 50/	30/ to 50/	9/	10/ to 60/	30/ to 60/	50/	50/	9/ to 10/	10/
" per week	..	30/ to 50/	..	50/ to 60/	30/ to 60/	50/	50/	..	..

* With board.

LABOUR LEGISLATION.

The legislation passed by the General Assembly of New Zealand, and termed the "Labour Laws," comprises the undermentioned statutes and regulations made under various Acts:—

- "The Conspiracy Law Amendment Act, 1894."
- "The Contractors' and Workmen's Lien Act, 1892."
- "The Employers' Liability Act, 1882," with amendments of 1891 and 1892.
- "The Factories Act, 1894," and Amendment Act, 1896.
- "The Industrial Conciliation and Arbitration Act, 1894," with amendments, 1895 and 1896.
- Labour in Coal-mines: Extract from "The Coal-mines Act, 1891."
- Labour in Coal-mines: Regulations for the Management and Administration of Funds and Moneys under section 69 of "The Coal-mines Act, 1891."
- Labour in Mines: Extracts from "The Mining Act, 1891."
- "The Sunday Labour in Mines Prevention Act, 1897."
- "The Master and Apprentice Act, 1865." Master and Apprentice: Extract from "The Criminal Code Act, 1893," sections 150 and 213.
- "The Servants' Registry Offices Act, 1895."
- "The Shipping and Seamen's Act, 1877," with Amendment Acts of 1885, 1890, 1894, 1895, and 1896.
- "The Shops and Shop-assistants Act, 1894," with Amendment Acts of 1895 and 1896.
- "The Trade-Union Act, 1878," and Amendment Act, 1896.
- "The Truck Act, 1891."
- "The Wages Attachment Act, 1895."
- "The Workmen's Wages Act, 1893."

These Acts and regulations are published in pamphlet form by the Department of Labour, with general remarks by the Secretary, which are quoted as important:—

The labour laws have been passed in the effort to regulate certain conditions affecting employer and employed. Their scope embraces many difficult positions into which the exigencies of modern industrial life have forced those engaged in trades and handicrafts. The general tendency of these laws is to ameliorate the position of the worker by preventing social oppression through undue influences, or through unsatisfactory conditions of sanitation. It will undoubtedly be found that, with the advance of time, these laws are capable of improvement and amendment; but they have already done much to make the lives of operatives of fuller and more healthy growth, and their aim is to prevent the installation of abuses before such abuses attain formidable dimensions.

The manufacturing population in New Zealand differs from that in some other of the Australasian Colonies by its wide dispersion. The capital city has hitherto been unable to draw to itself the industrial ability of the other provincial centres; and not only do Auckland, Christchurch, and Dunedin vie with Wellington as centres of population, but also as *nuclei* of commercial activity. In the second-class towns, such as Nelson, Napier, Invercargill, &c., many important works are being carried on, while even in the villages and rural districts the progress of new settlement necessitates the manufacture of articles which in older communities are produced in specialised localities. Men scattered widely at the numerous occupations of colonial country life, shearing, harvesting, bush-felling, road-making, or sailing coastal vessels, &c., require legal protection against the dangers and disabilities to which their callings expose them. This general dispersion of industry necessitates not only a wide system of supervision, but legislative measures of a peculiar character, at once sufficiently elastic to comprehend many varieties of function, and yet rigid to crush any apparent abuse.

The most important of these laws, in its general significance, is that dealing with compulsory arbitration in labour disputes. "The Industrial Conciliation and Arbitration Act, 1894" (with its amending Act of 1895), exists for the

purpose of encouraging industrial association, and to facilitate the settlement of trade difficulties. Societies consisting of five or more employers, or of seven or more workers, may be registered and become subject to the jurisdiction of the Board and Court appointed by the Act. Any such society may bring a disputed case before the Board of Conciliation appointed for that district, and, if the Board fails to effect a settlement, the dispute may be referred to the Court of Arbitration, whose award may be enforced in the same manner as an award of the Supreme Court. The amount, however, for which such an award may be enforced against an association is limited to £500. [There is also an Amendment Act of 1896.]

"The Factories Act, 1894," is a consolidation of previous legislation, with some important additions. New Zealand has been divided into factory districts under the charge of a Chief Inspector and 163 local Inspectors. As a "factory" or "work-room" includes any place in which two or more persons are engaged in working for hire or reward in any handicraft, there are few operatives who do not come within the scope of the Act. Children under fourteen years of age are not allowed to be employed, and the hours of labour, holidays, &c., of women and youths under sixteen are strictly regulated. Good ventilation, sanitary accommodation, and general cleanliness of buildings are points dwelt upon; while machinery has to be properly guarded, fire-escapes provided, and dangerous occupations especially classified. In order to assist the system of free general education which prevails in the colony, young persons are not allowed to work in factories till they have passed the Fourth Standard of the State schools, or an equivalent examination. To prevent the introduction of "sweating" into our commercial centres, articles made, or partly made, in private dwellings, or unregistered workshops, have to be labelled when offered for sale, so that goods so manufactured (often in unsanitary premises) may not be placed in the market in competition with work done in properly inspected factories. Any person removing such labels is liable to a heavy fine. The Factory Inspectors also exercise supervision over the sleeping accommodation provided for shearers in country districts. As the sheep-runs and farms are widely scattered, sometimes in the rough and remote back-country, this part of the work of inspection is no easy task. A woman Inspector of Factories also gives her assistance to the duties of the department, travelling from place to place, and particularly looking into the condition of the operative women and girls. [There is also an Amendment Act of 1896.]

The duration of the hours of business in shops is limited by "The Shops and Shop-assistants Act, 1894," and "The Shops and Shop-assistants Act Amendment Act, 1895." These provide for the closing of all shops in towns and boroughs for one afternoon half-holiday in each week. A few shops, such as those of chemists, fruiterers, eating-house keepers, &c., are exempted from the general closing on account of their convenience to the public; but assistants in such establishments, in the bars of hotels, and in country stores, must have a half-holiday on some day of the week. Very small shops carried on by Europeans without paid assistants are also exempt from closing on the general half-holiday, but must close on one afternoon in each week. The hours of work for women and young persons are defined; sitting accommodation must be provided, and precautions as to the necessary time for meals, sanitary accommodation, &c., are enforced; the Act also enumerates the working-hours, holidays, &c., of clerks employed in banks, mercantile offices, &c. [There is also an Amendment Act of 1896.]

"The Employers' Liability Act, 1882," added to and amended in 1891 and 1892, is designed to protect workmen from negligence on the part of employers, by defining under what circumstances compensation for injury or death may be recoverable. The Act covers all employments except that of domestic servant, and does not allow of any "contracting out" by agreement on the part of employer and employed. Another Act of this character has regard to the payment of workmen's wages, and states that if a workman shall demand payment of wages twenty-four hours or more after they are due, and the contractor does not pay such wages, the workman may legally attach all moneys due to the contractor by the employer until such wages are paid. "The Truck Act, 1891," requires that payment of wages shall not be made in goods or "truck," but in

money, any contra account notwithstanding; but there are a few exemptions, such as for advances for food, tools, &c., to men engaged in felling bush. In order to minimise the number of cases wherein fraudulent or unfortunate contractors victimised their labourers, "The Contractors' and Workmen's Lien Act 1892," was brought into existence. This entitles a person who has done work upon any land, building, or chattel to a lien upon such property. The lien is only to be exercised under certain restrictions, and for a limited amount, but it gives priority of claim for wages against other service, and enables legal proceedings for recovery to be taken before the attached property can be disposed of or alienated.

"The Servants' Registry Offices Act, 1895," regulates the licensing of registry offices for domestic or farm servants. It prevents friendless or uneducated people from becoming the prey of unscrupulous persons, who formerly collected fees by duping the applicants for situations. The registry-office keepers have to pay a licensing fee to the Government, and to present a certificate of good character when applying for a license. Proper ledgers and books open to inspection must be provided, and the lending or hiring of licenses is not permitted. Registry-office keepers are not allowed to keep lodging-houses for servants, or have any interest in such houses.

Five Acts for the supervision of shipping, and the protection of sailors and passengers, are to be found in this volume. They relate to the appointment of pilots and ships' officers; the engagement and discharge of sailors; the sanitation, ventilation, and overloading of vessels; and the number of duly rated hands engaged in proportion to tonnage. They endeavour to prevent injustice to the sailor as to advance-notes, or payments in foreign money, and also specify penalties to be inflicted for desertion, disobedience, &c.

Combinations or associations of persons for regulating the relations between masters and masters, or masters and workmen, or workmen and workmen, are directed by "The Trade Union Act, 1878." In this Act the different statutes which do not apply to trade-unions (such as the Joint Stock Act, the Friendly Societies Act, &c.) are enumerated, and the manner in which such societies may register, hold property, &c., is set out, together with the necessary provisions as to returns, penalties, &c. "The Conspiracy Law Amendment Act, 1894," permits any combination of persons in furtherance of a trade dispute, provided that any act performed by such combination or society would not be unlawful if done by one person. Such action must not include riot, sedition, or crime against the State. [An Amendment Act was passed in 1896, altering the age of membership.]

"The Wages Attachment Act, 1895," prevents wages below £2 a week being attached for debt. It does not interfere with any workman being sued for debt in the ordinary course, but prevents a grasping creditor from stepping in before others and seizing wages in advance before they are earned.

"The Master and Apprentice Act, 1865," applies mainly to the indenturing of apprentices by the State, such apprentices being children of destitute parents. In other respects the law of England is held to be the law governing the relations between masters and apprentices in this colony; but special sections of the Act apply to the punishment of apprentices for absents themselves from duty, and to the fine on a master for neglecting or ill using his apprentice. The extract printed herewith from "The Criminal Code Act, 1893," also relates to the proper care of apprentices by their masters.

In or about coal-mines women and boys are not allowed to be engaged. "The Coal-mines Act," 1891," provides for the appointment of inspectors, mine-managers, engine-drivers, &c., and furnishes rules as to the ages and working-hours of those employed in attending engines, machinery, winding-gear, &c. The ventilation of mines is provided for, and the necessary safeguards imposed as to blasting operations, working in foul air, protecting lights, &c. Regulations for the management and administration of funds and moneys, under section 69 of "The Coal-mines Act, 1891," are reprinted; they relate chiefly to the withdrawal of moneys from the Sick and Accident Fund, and returns demanded from trustees of the fund. The extracts from "The Mining Act, 1891," refer to labour in any kind of mine, and state the position of tributors and wages-men, the examination for officers, provision for ventilation, precautions against accident by blasting, &c.

SECTION XII.—IMPORTS: CUSTOMS AND EXCISE REVENUE.

IMPORTS.

The quantities and values of imports used in making up the figures given in this portion of the statistical report are obtained from Customs entries, verified where necessary, as with goods subject to an *ad valorem* duty, by examination. For exports, the "free on board in New Zealand" value is given; but, as regards the main items, the Collector of Customs examines carefully the amounts stated, and compares them with current price-lists, to prevent any over-estimate. Goods transhipped at a foreign port are regarded as imported from the country where they were originally shipped, and exports as destined for the country where it is intended to land them. The countries named, however, may not be those of origin or destination, as no attempt is made to trace the goods beyond the ports disclosed by the documents presented to the Customs. Very little cargo *in transitu* passes through New Zealand.

The total declared values of the imports in 1897 amounted to £8,055,223, being an increase on the corresponding total in 1896 of £917,903. These figures are, however, somewhat misleading, as they include specie. The value of coin brought into the colony in 1897 was £61,022, against £101,941 in the previous year, and if these items are excluded, the increase on the values of all other articles will be found to reach the sum of £958,822.

The following table gives the value of imports for each of the past twelve years:—

Year.				Imports, inclusive of Specie. £	Imports, exclusive of Specie. £
1886	..	..	..	6,759,013	6,319,223
1887	..	..	..	6,245,515	6,064,281
1888	..	..	..	5,941,900	5,430,050
1889	..	..	..	6,308,863	5,980,583
1890	..	..	..	6,260,505	5,928,625
1891	..	..	..	6,503,849	6,431,101
1892	..	..	..	6,943,056	6,742,544
1893	..	..	..	6,911,515	6,494,279
1894	..	..	..	6,788,020	5,990,177
1895	..	..	..	6,400,129	6,115,953
1896	..	..	..	7,137,320	7,035,379
1897	..	..	..	8,055,223	7,994,201

It will be seen that the value of imports, exclusive of specie, fell by degrees from £6,319,223 in 1886 (the first year of the series) to £5,430,050 in 1888; from the latter year it rose till it reached £6,742,544 in 1892; while in 1893 it again showed a decline—3·68 per cent., in 1894 a further decline of 7·76 per cent., in 1895 an increase of 2·10 per cent., in 1896 an increase of 15·03 per cent.,

and in 1897 a further increase of 13·63 per cent. Thus, the rise in the imports, exclusive of specie, for the two last years, 1896 and 1897, measured by value, was very great, being an increase in amount of £1,878,248, or 30·71 per cent. on the imports for the year 1895, a result in the highest degree satisfactory, as evidencing an enhanced power and need of buying from abroad.

By means of the accompanying table, in which the articles imported are arranged in groups according to their nature, the increases can be traced to their specific heads:—

IMPORTS FOR FIVE YEARS.

Group of Principal Articles imported.	1893.	1894.	1895.	1896.	1897.
	£	£	£	£	£
Apparel and slops ..	346,860	301,774	316,179	370,516	362,389
Boots and shoes ..	142,676	139,455	122,462	127,985	132,203
Cotton piece-goods ..	393,588	342,446	374,366	434,673	414,673
Drapery ..	337,065	294,800	288,995	336,839	344,539
Haberdashery ..	91,492	71,505	84,625	68,473	70,853
Hats and caps ..	62,234	46,785	54,193	58,310	63,310
Hosiery ..	72,281	59,237	62,237	82,984	83,796
Linen manufactures ..	18,142	43,851	48,029	57,325	57,039
Millinery ..	25,829	23,480	24,591	28,866	32,245
Silks ..	77,109	57,965	59,189	69,742	74,400
Woollens ..	211,770	178,668	187,782	254,580	293,449
Totals.: ..	1,809,046	1,559,966	1,622,648	1,890,293	1,928,896
Agricultural imple- ments ..	4,958	3,942	4,599	6,894	11,095
Cutlery ..	19,903	16,913	15,658	17,384	19,636
Hardware and iron- mongery ..	186,358	171,179	164,745	182,313	228,465
Iron rails and railway bolts, &c. ..	48,037	33,934	41,301	29,592	90,489
Iron, pig, wrought, wire, &c. ..	358,511	344,434	318,362	502,725	529,204
Steel and steel rails ..	14,484	10,164	12,152		
Machinery ..	182,639	156,199	181,843	251,905	368,416
Nails ..	24,773	27,968	25,965	32,304	33,279
Railway plant ..	6,904	8,843	5,687	3,062	46,082
Sewing-machines ..	29,405	21,797	22,166	24,641	21,542
Tools, artificers' ..	44,654	41,196	39,124	44,386	37,903
Totals ..	920,626	836,589	781,602	1,095,206	1,406,111
Sugar ..	301,308	460,071	389,609	422,134	373,407
Tea ..	164,360	136,986	173,343	166,860	178,350
Totals.. ..	465,668	597,057	562,952	588,994	551,757

IMPORTS FOR FIVE YEARS—*continued.*

Group of Principal Articles imported.	1893.	1894.	1895.	1896.	1897.
	£	£	£	£	£
Beer	46,817	39,393	42,676	35,123	39,614
Spirits*	184,625	153,560	164,166	160,648	178,344
Tobacco	125,253	124,757	123,843	149,905	164,889
Wine	51,084	40,412	41,109	40,879	50,202
Totals.. ..	407,279	358,122	371,794	386,555	433,049
Paper	111,340	117,259	110,539	117,677	127,980
Printed books	108,281	105,597	101,958	111,344	116,485
Stationery	75,117	71,524	77,595	86,628	92,871
Totals.. ..	294,738	294,380	290,092	315,549	337,336
Bags and sacks	125,513	62,497	69,935	55,961	104,401
Coals	111,956	105,191	97,621	94,138	98,139
Fancy goods	85,907	71,257	71,273	89,072	100,824
Fruits (including fresh, preserved, bottled, dried)	146,580	133,829	125,250	145,016	183,133
Oils	105,377	111,654	134,913	128,138	163,793
Other imports (excluding specie)	2,021,589	1,859,685	1,987,873	2,246,457	2,686,762
Total Imports (excluding specie)	6,494,279	5,990,177	6,115,953	7,035,379	7,994,201
Specie imported	417,236	797,843	284,176	101,941	61,022
Total Imports	6,911,515	6,788,020	6,400,129	7,137,320	8,055,223

* Includes methylated and perfumed spirits, and spirits of wine.

Of £7,994,201 total value of goods imported during 1897, the chief items were as under:—

Articles.	Value. £	Proportion per Cent.
Clothing, drapery, &c.	1,928,896	24.12
Metal, machinery, and implements.. ..	1,406,111	17.59
Tea and sugar	551,757	6.91
Wine, beer, spirits, and tobacco	433,049	5.42
Paper and books	337,336	4.22
Other imports	3,337,052	41.74
	7,994,201	100.00

The value of the clothing, drapery, &c., imported increased from £1,890,293 in 1896 to £1,928,896 in 1897. In 1884, with a popula-

tion smaller by nearly 23 per cent., the value of the import was £1,819,674. The iron, machinery, and implements imported in 1897 were valued at £1,406,111, an increase of £310,905 on the corresponding figures for 1896 (£1,095,206). In 1884 the import of these goods was valued at £1,255,981.

VALUE OF FREE AND DUTIABLE IMPORTS.

The values of the imports into New Zealand during the year 1897 are given in the next table, classified according to the duties to which they were liable, and are arranged so as to show the declared value of goods on which specific or *ad valorem* duties at various rates are payable and of those admitted free of duty:—

Duties to which Imports liable.					Value of Imports, 1897.	
					£	£
Specific duties	..	..	..	..	..	2,046,040
<i>Ad valorem</i> duties—						
5 per cent...	..	..	..	..	238,081	
10 per cent...	..	..	..	..	112,977	
15 per cent...	..	..	..	..	32,980	
20 per cent...	..	..	..	..	1,915,919	
22½ per cent.	..	..	..	..	131,726	
25 per cent...	..	..	..	..	755,889	
40 per cent...	..	..	..	..	1,899	
Various	..	..	..	..	40,939	
Parcels-post (various)	..	..	..	..	41,820	
Duty-free (excluding specie)	..	..	..	..	..	3,272,230
Specie imported	..	..	..	..	..	2,675,931
						61,022
Totals	..	..	..	..	..	8,055,223

The proportions of free and dutiable goods imported during 1896 and 1897 are compared with similar figures for 1894, the year preceding that in which the new tariff came into force:—

		1894.	1896.	1897.
Merchandise—		£	£	£
Free	.. ..	1,871,772	2,263,092	2,675,931
Dutiable	.. ..	4,118,405	4,772,287	5,313,270
Imports (less specie)		5,990,177	7,035,379	7,994,201
		£	£	£
Total net duty received		1,572,467	1,767,852	1,915,693
Duty, per cent. of imports—	Per Cent.	Per Cent.	Per Cent.	Per Cent.
(a.) On dutiable imports	38·18	37·04	36·02	
(b.) On all merchandise	26·25	25·13	23·95	

SUGAR.

The value of sugar (including glucose, molasses, and treacle) imported in 1897 was £373,407, a decrease of £48,727 on the amount for 1896 (£422,134). This import for the last three years has

averaged only £395,050 per annum, but for the three years 1882, 1883, and 1884 the average, with a much smaller population, was £615,207 for each year. The smaller average amount for the last three years is due, not to a reduction in the quantity imported, but partly to a fall in the price of sugar and partly to the fact that the proportion of refined to raw sugar has vastly decreased.

A statement, compiled from official sources, and referring to the general sugar-supply of the Australasian Colonies for the year 1893, is quoted to show how great was the excess of sugar-consumption over production at that time, and the figures are especially interesting in view of the fact that beet-sugar (for the growth of which New Zealand has been reputed as probably a suitable country) is steadily replacing, according to good authorities, the product of the cane, and has become the regulating factor in the sugar market of the world. Of every 100 lb. of sugar produced in the world, in 1880-81, 47·2 lb. were made from beet, and 52·8 lb. from cane; while in 1893-94, 56·7 lb. were made from beet, and 43·3 lb. from cane. These figures indicate the success which the beet industry has achieved in its competition with the cane.

YEAR 1893, SUGAR, IN TONS.

Australasian Colonies.	Produced. Tons.	Imported. Tons.	Exported. Tons.	Consumed. Tons.
Queensland	76,146·00	33·50	52,528·95	23,650·55
New South Wales ..	20,000·00	35,754·00	10,174·30	45,579·70
Victoria	..	45,598·40	5,370·20	40,228·20
South Australia ..	..	20,183·30	3,596·30	16,587·00
West Australia ..	..	4,000·00	..	4,000·00
Tasmania	..	7,218·90	3·00	7,215·90
New Zealand	..	21,340·00	282·00	21,058·00
Totals	96,146·00	134,128·10	71,954·35	158,319·35

The following table, giving the consumption per head of sugar in different countries, is, saving the figures for New Zealand—which are for 1897, and exclude a proportion (30 lb. per head) deducted on account of Maoris—taken from the Victorian Year-book of 1893. The figures stating the consumption of tea, given further on, are taken from the same source.

ANNUAL CONSUMPTION OF SUGAR PER HEAD IN VARIOUS COUNTRIES.

	Lb.		Lb.
South Australia	102·11	Sweden	17·52
New Zealand	96·85	Belgium	15·74
Western Australia ..	93·51	Germany	15·01
Victoria	90·75	Austria-Hungary ..	13·23
Tasmania	90·49	Norway	11·37
United Kingdom	68·99	Finland	11·22
Queensland	62·93	Portugal	9·56
New South Wales	60·95	Roumania	7·71
Argentine Republic ..	50·04	Russia	7·69
Denmark	29·69	Spain	5·11
Holland	28·37	Servia	4·41
Switzerland	22·81	Italy	3·20
France	22·61		

TEA.

The quantity of tea entered for consumption in 1897 was 4,564,840 lb. Supposing Maoris to use, on an average, 1 lb. per head per annum, the consumption of tea per head of the population, exclusive of Maoris, would be 6·27 lb. in 1897.

ANNUAL CONSUMPTION OF TEA PER HEAD.

	Lb.		Lb.
Western Australia	10·70	Denmark	0·37
Victoria	10·01	Persia	0·13
Queensland	8·96	Portugal	0·12
New South Wales	7·55	Switzerland	0·10
South Australia	7·24	Norway	0·09
New Zealand	6·27	Germany	0·07
Tasmania	5·35	Belgium	0·03
United Kingdom	4·70	Sweden	0·03
Canada	3·69	France	0·03
United States	1·40	Austria-Hungary	0·02
Holland	1·16	Spain	0·01
Russia	0·61		

BEER, SPIRITS, AND WINE.

During 1897 excise duty was paid on 5,741,200 gallons of beer; and 190,350 gallons of beer, 478,136 gallons of spirits, and 105,060 gallons of wine were entered at the Customs for home consumption. The following table gives the consumption per head of alcoholic liquors by the people, excluding and including Maoris, showing separately the proportions of beer, wine, and spirits for the last fifteen years. To the amount of beer manufactured in the colony in each year on which excise duty was paid has been added the amount brought into consumption from imports:—

Year.	Beer.		Spirits.		Wine.	
	Excluding Maoris.	Including Maoris.	Excluding Maoris.	Including Maoris.	Excluding Maoris.	Including Maoris.
	Gal.	Gal.	Gal.	Gal.	Gal.	Gal.
1883	9·435	8·709	1·088	1·005	0·315	0·291
1884	8·769	8·121	0·999	0·923	0·272	0·253
1885	8·414	7·840	0·899	0·825	0·261	0·243
1886	7·861	7·333	0·820	0·765	0·212	0·198
1887	7·651	7·148	0·770	0·719	0·198	0·185
1888	7·133	6·670	0·820	0·767	0·167	0·156
1889	7·624	7·136	0·598	0·560	0·176	0·165
1890	7·899	7·402	0·693	0·649	0·184	0·172
1891	7·646	7·168	0·699	0·655	0·172	0·161
1892	7·807	7·328	0·708	0·664	0·174	0·163
1893	7·716	7·255	0·697	0·656	0·170	0·159
1894	7·391	6·961	0·648	0·611	0·144	0·136
1895	7·421	6·996	0·629	0·593	0·135	0·127
1896	7·873	7·453	0·639	0·605	0·141	0·133
1897	8·220	7·790	0·663	0·628	0·146	0·138

It is most satisfactory to observe how favourably the above rates of consumption in this colony compare with those of other countries.

A comparison can be made by means of the following statement of the annual consumption of beer and spirits per head in various places:—*

—	Beer.	Spirits.	—	Beer.	Spirits.
	Gal.	Gal.		Gal.	Gal.
United Kingdom ..	28·74	1·00	Tasmania ..	10·02	0·59
South Australia ..	20·04	0·49	Switzerland ..	8·15	1·04
Germany ..	19·38	0·95	New Zealand (includ-	7·79	0·63
Victoria ..	19·36	1·12	ing Maoris)		
Holland ..	19·05	2·08	Austria-Hungary ..	6·83	0·63
New South Wales ..	11·94	1·15	France ..	4·53	0·85
United States ..	10·74	1·34	Canada ..	3·05	1·19
Queensland ..	10·23	1·59	Sweden ..	2·52	4·20

The actual quantity of beer made and used in the colony has increased from 4,402,720 gallons in 1885 to 5,741,200 gallons in 1897.

BEER MANUFACTURED IN NEW ZEALAND ON WHICH EXCISE DUTY WAS PAID.

	Gal.		Gal.
1885	4,402,720	1892	4,752,720
1886	4,243,760	1893	4,873,600
1887	4,264,160	1894	4,807,360
1888	4,050,560	1895	4,936,400
1889	4,402,480	1896	5,382,960
1890	4,676,240	1897	5,741,200
1891	4,567,920		

TOBACCO.

The tobacco entered for consumption in 1897 was 1,605,053 lb., and the consumption per head of population, including Maoris, 2·11 lb.

AVERAGE ANNUAL CONSUMPTION PER HEAD OF TOBACCO IN VARIOUS COUNTRIES.

	Lb.		Lb.
Holland	6·92	Denmark	2·24
United States ..	4·40	Canada	2·11
New South Wales ..	3·53	New Zealand ..	2·11
Queensland	3·49	France	2·05
Western Australia ..	3·26	Sweden	1·87
Switzerland	3·24	Tasmania	1·85
Belgium	3·15	Russia	1·82
Germany	3·00	South Australia ..	1·70
Victoria	2·93	United Kingdom ..	1·38
Austria-Hungary ..	2·73	Italy	1·28
Finland	2·73	Spain	1·10
Norway	2·29		

IMPORTS FROM DIFFERENT COUNTRIES.

The imports from the United Kingdom to New Zealand in 1897 were valued at £5,392,738, or an increase of £678,262 on the imports from this source for the previous year. From Australia and

* Taken, except as regards New Zealand, from the Victorian Year-book of 1894.

Tasmania the imports were £1,001,003, a decrease of £89,371 on the amount in 1896.

The following are the values of imports from different countries or places in 1896 and 1897, given in the order of the increase or decrease from each :—

Country.	1896. £	1897. £	Increase. £
United Kingdom	4,714,476	5,392,738	678,262
United States, East Coast ..	419,689	521,939	102,250
West Coast ..	73,151	106,105	32,954
Bengal	124,821	188,676	63,855
Germany	101,381	157,066	55,685
Canada	12,891	47,303	34,412
Ceylon	95,961	114,147	18,186
Belgium	25,023	33,471	8,448
British Columbia	6,796	13,622	6,826
Malden Island	4,290	9,511	5,221
Sweden	402	5,352	4,950
Philippine Islands	4,401	9,018	4,617
Mauritius	21,219	25,564	4,345
Holland	11,064	15,398	4,334
Hongkong	22,338	26,030	3,692
Greece	5,011	8,590	3,579
Asia Minor	6,807	9,996	3,189
Japan	27,702	30,155	2,453
Singapore	10,924	12,122	1,198
Portugal	1,225	2,347	1,122
Austria	238	966	728
Spain	1,116	1,625	509
Madras	331	771	440
China (excepting Hongkong) ..	17,089	17,360	271
Norfolk Island	192	404	212
Denmark	98	268	170
West Indies	1,757	1,862	105
Others	6	61	55

Country.	1896. £	1897. £	Decrease. £
Victoria	348,858	290,619	58,239
Queensland	121,199	105,695	15,504
New South Wales	562,665	547,424	15,241
Fiji	234,840	223,663	11,177
Pacific Islands	58,763	50,015	8,748
Switzerland	9,282	5,403	3,879
Java	3,470	48	3,422
Fanning Island	3,074	..	3,074
France	17,810	16,382	1,428
Italy	6,354	5,423	931
Algeria	840	..	840
Bombay	346	90	316
Norway	239	22	267
Tasmania	31,844	31,610	234
Uruguay	220	..	220
Canary Islands	216	73	143
Jamaica	134	..	134
Western Australia	157	56	101
Egypt	679	611	68
South Australia	25,651	25,599	52
Others	230	83	147

IMPORTS, BY PROVINCIAL DISTRICTS.

The values of imports in each provincial district during 1890 and 1897 were as under:—

	1890.	1897.
	£	£
Auckland	1,406,477	2,167,916
Taranaki	24,575	59,050
Hawke's Bay	162,097	183,867
Wellington	1,282,821	2,017,991
Marlborough	19,547	11,313
Nelson	151,422	156,890
Westland	93,426	59,653
Canterbury	1,269,572	1,465,239
Otago	1,836,754	1,891,484

The value of imports by parcel-post (£13,834 in 1890 and £41,820 in 1897) must be added to the above figures in order to make up the totals (including specie) of £6,260,525 and £8,055,223 for the respective years.

IMPORTS, NORTH AND MIDDLE ISLANDS.

Separating the value of the imports for the North Island from that of the Middle Island, it is found that whereas in 1890 the former received imported goods to the value of £2,875,970, against £3,370,721 for the Middle Island, in the year 1897 the North Island imports far exceeded those of the other, the values being respectively £4,428,824 and £3,584,579, or an excess for the North of 23·55 per cent.

DETAILS OF ALL ARTICLES OF IMPORT.

Details of all imports for 1897, giving quantities and values of articles introduced into the colony, with the amounts entered for Home consumption, and the amount of duty received, are next shown:—

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING THE YEAR 1897.
(For rates of Duty see Tariff, p. 63.)

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Acid—		£		£ s. d.
Acetic	248,737 lb.	2,985	249,696 lb.	1,560 12 0
Carbolic	34,477 "	480	..	..
Salicylic	2,871 "	294	..	..
Sulphuric	951,321 "	3,160	..	..
Tartaric	108,107 "	6,239	103,934 lb.	433 1 2
Unenumerated	90,537 "	1,379	..	..
Alkali—				
Potash and caustic potash	1,293 cwt.	2,175	..	..
Soda-ash	9,893 "	3,259	..	..
Soda, carbonate and bi-carbonate	10,132 "	4,337	9,861 cwt.	493 0 9
Soda, caustic	12,906 "	7,648	..	..
Soda, crystals	143 "	33	150 cwt.	14 19 1
Soda, silicate	2,391 "	772	..	..
Unenumerated	4,004 "	1,834	..	..

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Alum	848 cwt.	348	..	..
Animals, living—				
Birds	213 No.	166	..	..
Cattle, horned ..	3 "	100	3 No.	1 10 0
Deer	10 "	110	..	..
Dogs	85 "	560	..	..
Horses	855 "	15,046	855 No.	855 0 0
"	15 "	1,605	..	..
Opossums	2 "	4	..	..
Poultry	189 "	460	..	..
Sheep	40 "	1,140	..	..
Tasmanian devil ..	1 "	1	..	..
Turtles	6 "	10	..	..
Wallabies	2 "	2	..	..
Apparel and slops n.o.e. ..	..	359,995	£357,312	89,328 0 11
"	..	495	..	..
Apparel made to the order of residents in the colony	..	1,899	£1,899	759 14 7
Arms, ammunition, and explosives—				
Accoutrements	..	113	..	..
Caps, percussion ..	3,602,700 No.	553	..	..
Cartridges, shot, 10- to 24-bore	1,903,150 "	5,733	1,900,500 No.	1,425 6 10
Cartridges n.o.e. ..	2,888,100 "	2,101	£2,113	422 10 0
"	106,605 "	2,590	..	..
Cartridge-cases	630,100 "	990	637,900 No.	239 4 4
"	39,200 "	152	..	..
Detonators for dynamite ..	1,186,000 "	2,325	..	..
Dynamite	183,500 lb.	15,478	..	..
Firearms	3,260 No.	5,173	£4,988	997 12 2
"	100 "	423	..	..
Fuse	191,086 coils	5,533	..	..
Lithofracteur, cordite, and similar explosives ..	283,500 lb.	21,282	..	..
Ordnance stores	..	2,768	..	..
Powder, blasting	344,015 "	7,795	..	..
Powder, sporting	33,310 "	3,732	81,835 lb.	795 17 6
"	51,365 "	2,668	..	..
Shot	277 cwt.	253	288 cwt.	143 19 8
Swords	670 No.	47	..	..
Other explosives	19,000 lb.	1,434	..	..
Unenumerated	..	871	..	..
Asphalt	100 cwt.	35	..	..
Bacon and hams	983 lb.	31	983 lb.	8 3 10
"	10,745 "	267	..	..
Bags and sacks—				
Cornsacks	457,241 doz.	97,912	..	..
Unenumerated	3,673 "	358	£315	63 0 0
"	32,195 "	5,763	..	..
Bagging and sacking	..	8	£8	1 4 0
"	..	360	..	..
Basket and wickerware ..	..	1,883	£1,870	374 0 0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—continued.

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Beer	200,992 galls.	39,593	190,351 galls.	19,035 1 9
Belting, leather	194 ..	21	..	..
Belting, other than leather	41,843 lb.	4,870	41,254 lb.	687 11 2
Beverages, non-alcoholic—	246 lb.	23	..	..
Aerated and mineral waters	..	7,950	..	..
Coffee, essence	5,192 doz.	887	£806	161 4 0
Limejuice, sweetened	..	5,060	£4,966	993 2 0
Unenumerated	3,996 galls.	775	£784	195 18 8
Bicycles and tricycles	49,214 ..	3,803	..	..
Materials for	..	709	£667	166 15 4
Biscuits—	11,484 No.	126,743	£118,110	23,621 18 0
Fancy, and other kinds	13 ..	172	..	..
Ship's, plain	..	34,251	£33,284	6,656 17 0
Blackening	..	29,895	..	..
Blacklead	24,422 lb.	1,136	23,845 lb.	198 14 1
Blue	27 cwt.	35	27 cwt.	4 0 9
Boats	..	3,416	£3,348	669 13 3
Bones	..	3,024	£2,533	506 13 2
Books, &c., printed	186,061 lb.	5,179	191,721 lb.	1,597 13 6
Boots and shoes	22 No.	2,145	..	..
Gum-boots	8,594 tons	12,168	..	..
Borax	..	116,485	..	..
Brass—	69,445 doz. prs	121,738	£121,260	27,283 11 10
Pigs, bars, tubes, or sheets	..	2,358	..	..
Tubing and stamped-work in the rough	..	1,068	..	..
Manufactures	886 ..	8,802	..	..
Bricks—	1,674 cwt.	1,907	..	..
Fire	557 ..	2,167	..	..
Other kinds	80 ..	338	..	..
Brushware and brooms—	..	6,977	£7,072	1,414 6 3
Brooms	72,351 No.	274	£277	55 8 0
Brushes (clothes, hair, hat, and toilet)	2,500 ..	20	..	..
Unenumerated	23,438 ..	98	..	..
Materials for	..	..	..	..
Buckets and tubs—	..	5,353	..	..
Iron	3,007 doz.	1,494	£1,536	383 10 4
Wood	..	8,359	£3,366	673 4 7
Butter	..	7,863	£7,848	1,961 19 10
Candles	..	67	..	..
Canes and rattans	..	..	..	..
Canvas	..	..	..	..
Caramels, brewers'	..	..	..	..
	13,591 lb.	254	12,006 lb.	150 1 6

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—continued.

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Cards, playing	50,455 packs	886	47,047 packs	1,176 3 6
Carpeting and druggeting..	..	30,923	£30,904	6,180 14 10
Carriages, &c.—				
Carriages	207 No.	3,061	£3,085	616 19 5
Carts, drays, and wagons	57 "	741	£580	116 0 0
Perambulators and go-carts	44 "	123	£123	24 13 6
Ditto	5 "	20	..	..
Materials for	..	3,786	£3,836	767 3 0
"	..	13,270	..	..
Axles, axle-arms, and boxes	..	10,687	..	..
Carriage and cart shafts, spokes, and felloes in the rough	..	5,987	..	..
Casks, empty	2,045 No.	1,631	£1,630	326 0 0
"	801 "	178	..	..
Cement	81,366 barrels	36,845	80,917 barrels	8,091 13 0
"	4,515 "	2,061	..	..
Chains and chain-cables ..	5,599 cwt.	5,273	..	..
Charcoal	11,246 "	4,237	..	..
Cheese	4 "	21	£21	4 4 0
"	53 "	94	..	..
Chicory	433 lb.	23	474 lb.	5 18 6
China, porcelain, and parian-ware	..	17,513	£17,393	3,478 13 7
Ditto	..	77	..	..
Clocks	31,681 No.	9,403	£9,141	1,838 2 0
"	62 "	79	..	..
Coals	110,907 tons	98,139	..	..
Cocoa and chocolate ..	292,528 lb.	28,907	279,027 lb.	3,487 16 8
Cocoa-beans	56,842 "	1,722	..	..
Coffee—				
Raw	346,711 "	15,105	263,062 "	2,192 3 8
Roasted	1,628 "	79	1,739 "	36 4 7
Coke	980 tons	2,318	..	..
Combs	..	962	£966	193 4 0
Confectionery—				
Chocolate confectionery : plain trade packages ..	70,164 lb.	3,540	74,092 lb.	926 3 0
Chocolate confectionery : fancy packages ..	..	3,255	£3,241	648 4 4
Unenumerated	283,851 "	9,206	281,792 lb.	2,348 5 3
Copper—				
Nails	270 cwt.	1,019	..	..
Pig, bar, sheet, and tube	4,449 "	15,411	..	..
Rod and bolt	213 "	535	..	..
Sheathing	331 "	964	..	..
Copper manufactures ..	..	222	£222	44 8 0
Copra	1,091 tons	9,437	..	..
Cordage	3,458 cwt.	8,112	£7,889	1,577 17 4
"	80 "	156	..	..
Hawsers of 12 in. and over	212 "	235	..	..
Iron and steel	6,649 "	14,779	..	..

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Cork, cut	..	7,352	£7,219	1,443 15 11
Cotton piece-goods—				
Butter- and cheese-cloths	..	2,594	..	..
Calico, white and gray	..	116,675	..	..
Corduroy, moleskin, and beaver-skin	..	11,046	..	..
Leather cloths	..	3,782	..	..
Shirtings, coloured cotton	..	37,123	..	..
" flannelette	..	8,364	..	..
" union, of 6d. per yard and under	..	5,040	..	..
Tubular woven cotton cloth	..	987	..	..
Waterproof material	..	39,918	..	..
Unenumerated	..	99,850	£99,477	19,895 8 11
"	..	89,294	£86,735	8,673 9 2
Cotton—				
Raw	17,452 lb.	309	..	..
Waste	2,482 cwt.	8,420	..	..
Wick	116,034 lb.	5,023	..	..
Cutlery	..	19,636	£19,209	3,841 16 4
Drapery	..	228,105	£227,028	45,405 11 6
"	..	10	..	..
Lace and laces n.o.e.	..	20,218	£20,180	5,044 19 4
Ribbons and crapes	..	9,752	£9,773	2,443 3 4
Tailors' trimmings	..	86,451	..	..
Drugs, chemicals, and druggists' wares—				
Baking powder, yeast preparations, &c.	..	543	£672	184 8 0
Chemicals n.o.e.	..	2,696	£2,602	520 9 4
"	..	151	..	..
Cream of tartar	669,643 lb.	27,859	642,413 lb.	2,676 14 5
Drugs, druggists' sundries, and apothecaries' wares	..	57,420	£56,577	11,315 6 8
Ditto	..	98	..	..
Glycerine used in the manufacture of tobacco	..	..	£22	..
Tinctures and medicinal spirits	24,759 lb.	1,571	26,364 lb.	1,318 4 3
Ditto	4,368 lb.	322	4,516 "	112 18 0
Anhydrous ammonia	..	1,240	..	..
Arsenic	2,653 cwt.	8,594	..	..
Disinfectants	..	2,374	..	..
Food preservative	..	1,254	..	..
Gums	..	2,000	..	..
Insecticides and tree-washes	..	860	..	..
Maltine	..	657	..	..
Medicinal barks, leaves, &c.	..	935	..	..
Phosphorus	..	2,251	..	..
Potassium cyanide	4,020 cwt.	18,884	..	..

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GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—continued.

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Drugs, chemicals, and druggists' wares—continued.		£		£ s. d.
Sheep- and horse-drenches and sheep-licks	..	69	..	..
Sheep-dip	..	25,781	..	..
Unenumerated	..	11,230	..	..
Dyes	..	15,691	..	..
Earthenware	..	53,617	£53,322	10,664 6 7
Eggs "	..	312	..	..
"	375 doz.	5	£5	1 0 0
"	8 "	8	..	..
Engine-packing	1,420 cwt.	4,906	..	..
Essences, flavouring—				
Spirituous	1,426 gals.	3,467	1,347 gals.	1,077 4 5
Unenumerated	..	93	£61	9 3 4
Essential oils—				
Eucalyptus	7,448 lb.	1,700	£1,753	350 12 0
Other kinds	32,028 "	4,903	..	..
Fancy goods and toys	..	98,000	£96,801	19,360 5 7
"	..	2,824	..	..
Felt sheathing	..	3,196	..	..
Fire-hose and other appliances	..	1,495	..	..
Fireworks	..	907	£904	180 17 4
"	..	745	..	..
Fish—				
Anchovies, salted	16 cwt.	92	..	..
Dried, pickled, or salted	2,450 "	3,965	2,364 cwt.	1,181 17 5
Potted and preserved	1,596,630 lb.	34,842	1,398,694 lb.	11,655 15 7
Ditto	96 "	4	..	..
Fishing tackle—				
Artificial flies	..	181	£181	45 5 0
Fish-hooks	..	447	..	..
Unenumerated	..	2,057	£2,082	416 6 0
Flock	62 cwt.	84	£84	8 8 0
Floorcloth and oilcloth	..	55,568	£55,785	11,157 1 5
"	..	471	..	..
Flour	47 centals	26	47 centals	2 6 11
Foods, animal—				
Chaff	4 tons	15	4 tons	4 4 0
Unenumerated	..	1,561	£1,566	313 5 9
Foods, farinaceous—				
Arrowroot	50,705 lb.	825	..	..
Macaroni and vermicelli	105,741 "	1,425	..	..
Maizena and corn-flour	968,915 "	11,446	946,324 lb.	985 15 1
Sago and tapioca	15,452 cwt.	7,144	..	..
Unenumerated	..	2,997	..	..
Fruits, bottled and preserved	40,354 doz.	10,220	£9,439	2,359 15 2
Fruits, dried—				
Currants	3,092,854 lb.	25,406	2,857,374 lb.	23,811 8 11
Raisins	2,127,417 "	31,867	2,004,645 "	16,705 7 6
Unenumerated	876,502 "	13,197	885,349 "	7,377 18 1
Fruit, fresh—				
Apples, pears, plums, &c.	872,052 "	10,172	872,052 "	3,633 11 0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Fruit, fresh— <i>continued.</i>				
Apples, pears	968,134 lb.	7,682	968,134 lb.	2,016 18 11
Currants, raspberries, &c. ..	111,262 "	1,205	111,262 "	231 15 11
Lemons	536,634 "	5,857	536,634 "	1,117 19 9
Other kinds	17,021,560 "	75,073	..	..
Fruit—				
Lemon- and orange-peel, in brine	358,103 "	1,943	..	..
Preserved by sulphurous acid	33,543 lb.	512	36,202 lb.	150 16 10
Fruit-pulp and partially-preserved fruit	287 "	9	287 "	1 15 11
Fungus	159 cwt.	198	..	..
Furniture, cabinetware, and upholstery	..	29,725	£29,690	7,422 9 1
Ditto	..	4,475	..	..
Kapok	3,693 cwt.	11,309	..	..
Furniture-, knife-, and plate-powder and polish	..	2,839	£2,914	582 17 0
Furs	..	4,095	£4,097	1,024 4 3
Gelatine and isinglass	50,367 lb.	4,254	£4,267	853 6 5
Glass—				
Bottles, empty	..	23,052	..	..
Mirrors and looking-glasses	..	5,179	£5,144	1,286 2 0
Plate, bevelled, &c.	..	2,968	£2,930	732 11 5
Plate, other kinds	176,273 sup. ft.	5,208	£5,206	1,041 5 7
Ditto	120 "	5	..	..
Window	2,438,890 "	15,334	2,437,400 sup. ft.	2,437 8 7
Glassware	..	26,230	£25,998	5,199 12 0
"	..	3,131	..	..
Glue and size	74,967 lb.	1,442	74,677 lb.	466 14 7
"	1,557 "	74	..	..
Gold-leaf	..	593	..	..
Grain and pulse—				
Barley	1,554 centials	731	1,536 centials	153 11 7
Beans and peas	508 "	319	507 "	19 0 5
Oats	187 "	78	186 "	6 19 5
"	27 "	7	..	..
Wheat	2,950 "	1,033	2,950 "	110 12 8
Unenumerated	4,979 "	2,208	4,980 "	186 14 10
Ground, unenumerated	1,701 "	1,636	1,833 "	91 12 6
Grease	2,571 cwt.	1,828	£1,808	961 13 3
Grindery—				
Heel-plates, &c.	..	1,119	£1,021	229 14 6
Unenumerated	..	20,099	..	..
Haberdashery	..	13,796	£13,811	2,762 3 0
Buttons, &c.	..	22,706	..	..
Sewing-cottons, silks and threads	..	81,426	..	..
Unenumerated	..	2,925	..	..
Hair	365 cwt.	1,467	..	..
Hardware, holloware, and ironmongery	..	191,888	£191,388	38,277 14 3

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Hardware, holloware, and ironmongery	...	£ 3,736	£ ..	£ s. d.
Coffin furniture	...	563	£627	125 8 0
Hats and caps	75,509 doz.	63,310	£63,358	15,839 10. 8
Hatters' materials	...	4,220	..	..
Hemp	229 tons	5,031	..	..
Hides	19,623 No.	16,929	..	..
Hops	144,693 lb.	6,372	125,818 lb.	3,145 9 0
"	1,664 "	55	..	..
Hops, liquid	3, "	2	3 "	0 18 0
Hosiery	..	83,728	£83,484	16,696 15 10
"	..	68	..	..
Indiarubber and gutta-percha goods	..	14	£14	2 16 0
Ditto	..	6,916	..	..
Ink, printing	111,880 lb.	4,623	..	..
Writing	..	1,353	£1,344	268 17 4
"	..	245	..	..
Instruments, musical—				
Harmoniums and organs	558 No.	5,593	£5,549	1,109 15 2
"	1 "	50	..	..
Pianofortes	2,469 "	51,517	£50,804	10,160 14 0
Unenumerated	..	10,029	£9,982	1,996 9 2
For Volunteer bands	..	610	..	..
Materials for	..	121	£121	24 6 0
"	..	1,485	..	..
Instruments, other kinds—				
Optical	..	1,991	..	..
Scientific	..	7,259	..	..
Surgical and dental	..	9,882	..	..
Surveying	..	882	..	..
Unenumerated	..	197	..	..
Iron and steel—				
Angle	251 tons.	2,223	..	..
Bar, bolt, and rod	11,477 "	97,369	..	..
Bolts and nuts	2,652 cwt.	2,523	£2,483	406 13 1
"	5,822 "	7,125	..	..
Castings for ships	9 tons	1,124	..	..
Galvanised manufactures	..	969	£968	242 0 5
Hoop	1,258 "	11,962	..	..
Hoop, galvanised	1,512 cwt.	1,013	1,523 cwt.	114 4 10
Pig	5,617 tons	20,423	..	..
Pipes and fittings	4,562 "	44,209	£44,359	2,217 18 7
"	24 "	164	..	..
Rails	14,285 "	83,133	..	..
Railway bolts and fastenings	45 "	463	£463	92 12 0
Ditto	474 "	6,893	..	..
Sheet and plate	4,782 "	42,391	..	..
Sheet, galvanised, corrugated	169,127 cwt.	126,049	167,226 cwt.	16,722 11 1
Sheet, galvanised, plain	36,154 "	28,156	36,154 "	2,711 10 8
Staples, standards, &c.	395 tons	4,641	£4,638	927 13 7
Tanks	2,583 No.	7,095	2,526 No.	1,263 0 0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Iron and steel— <i>continued.</i>		£		£ s. d.
Tanks	577 No.	1,082	562 No.	140 10 0
Wire, fencing, barbed ..	2,694 tons	29,891	..	..
Wire, fencing, plain ..	7,144 "	60,770	..	..
Wire-netting	..	26,505	..	..
Wire, unenumerated ..	733 tons	9,234	..	..
Unenumerated	567 "	4,236	..	..
Jams, jellies, and preserves	319,962 lb.	5,125	326,160 lb.	2,717 19 11
Jellies, concentrated ..	44,454 "	1,798	43,567 "	726 2 3
Jewellery	..	20,451	£20,236 "	4,047 4 8
.. ..	..	617	..	..
Lamps, lanterns, and lamp-wick	..	15,502	£15,422	3,084 8 2
Ditto	..	111	..	..
Lead—				
Pigs and bars	427 tons	5,987	..	..
Pipe (including composition)	276 cwt.	249	277 cwt.	48 9 6
Sheet	13,492 "	10,374	13,451 "	1,008 16 7
.. ..	1,212 "	1,144	..	..
Manufactures	..	266	£266	53 4 0
Leather	509,858 lb.	66,679	8,896 lb.	148 5 3
"	..	..	65,029 "	812 17 2
"	..	..	202,347 "	1,686 4 6
"	..	..	219,905 "	916 5 5
" chamois	67,230 lb.	8,809	..	..
"	..	434	£436	87 3 8
"	..	71	..	..
Leather manufactures—				
Boot and shoe vamps, uppers, and laces ..	..	8,495	£8,514	1,915 11 8
Unenumerated	..	379	£386	86 18 1
"	..	656	£650	129 19 6
Linen piece-goods—				
Forfar, dowlas, and flax sheeting n.o.e. ..	..	14,840	£1,263	252 12 0
Forfar, dowlas, &c., cut up under supervision ..	..	..	£13,612	..
Hessians and scrim ..	..	27,501	..	..
Linens n.o.e.	..	14,651	£14,371	2,874 5 5
Unenumerated	..	47	..	..
Linseed	9 cwt.	7	9 cwt.	0 9 0
Liquorice	..	2,830	£2,852	570 8 2
Machinery and machines—				
Agricultural	..	17,882	£17,470	873 9 11
"	..	51,267	..	..
Ploughs and harrows ..	..	11,095	..	..
Dairying	..	4,598	£4,923	246 2 6
"	..	10,375	..	..
Dredging	..	1,391	£1,391	69 11 0
Electric	..	12,844	£11,591	1,159 2 4
"	..	21,519	..	..
Engines, steam	19 No.	2,857	£2,386	477 4 0
" gas	118 "	10,276	..	..

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received
Machinery, &c.— <i>continued.</i>		£		£ s. d.
Engines, boilers for ..	31 No.	5,430	£1,875	375 0 0
Flour-milling ..	..	3,774	£3,693	184 12 10
Gas making ..	..	9,390	£8,886	888 12 0
" ..	..	4,233	..	..
Mining ..	..	105,448	£107,299	5,364 19 0
" ..	..	8,847	..	..
Paper-milling ..	..	235	£235	11 15 0
" ..	..	53	..	..
Portable and traction engines ..	29 No.	12,695	£12,693	634 13 0
Printing ..	..	13,603	£13,603	630 3 0
" ..	..	466	..	..
Refrigerating ..	..	11,828	£11,282	564 1 8
Sewing and knitting ..	6,415 No.	21,542	..	..
Wood-working ..	..	4,154	£4,057	202 17 3
" ..	..	1,192	..	..
Woollen-milling ..	..	12,975	£12,975	648 15 0
" ..	..	2,123	..	..
Unenumerated ..	..	25,142	£22,544	4,508 14 10
" ..	..	2,502	..	..
" ..	..	1,365	£1,443	144 6 0
" ..	..	5,289	£5,241	262 1 0
" ..	..	781	..	..
Materials for and parts of ..	..	2,270	£518	103 12 0
" ..	..	..	£1,510	75 10 0
" ..	..	6,612	..	..
Malt ..	1,459 bush.	521	1,221 bush.	122 1 9
" Rice malt ..	184 "	46	..	..
" ..	37,771 lb.	281	26,071 lb.	108 12 7
Manures—				
Bone-dust ..	6,657 tons	29,976	..	..
Guano ..	8,765 "	26,812	..	..
Unenumerated ..	8,895 "	32,442	..	..
Marble—				
Dressed or polished, and manufactures ..	..	3,864	£3,907	976 15 0
Ditto ..	..	150	..	..
Hewn or rough-sawn ..	149 tons	1,158	..	..
Matches and vestas—				
Wax ..	27,491 gross	5,218	21,420 gross	1,249 9 9
" ..	..	..	3,881 "	339 11 10
" ..	..	..	7,979 "	1,994 15 0
" ..	..	..	546 "	68 5 0
Wooden ..	29,791 gross	2,447	24,091 "	1,204 11 0
" ..	..	..	355 "	35 10 0
Mats and matting ..	..	7,104	£7,014	1,402 17 0
" ..	..	31	..	..
Meats—				
Potted and preserved ..	62,063 lb.	2,347	£2,096	419 5 11
" ..	488 "	9	..	..
Medicines, patent and proprietary ..	..	38,669	..	14,080 5 1
Metal, manufactures of ..	..	9,992	£10,066	2,013 2 0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Metal, manufactures of ..	..	806	..	..
Japanned and lacquered metalware ..	..	1,133	£1,082	270 9 1
Weighbridges and weighing-machines ..	..	1,895	£1,913	382 10 0
Ditto	..	182	..	..
Anchors	272 No.	359	..	..
Rivets and washers ..	5,935 cwt.	5,158	..	..
Tacks	1,515 "	2,356	..	..
Type-writers	528 No.	5,645	..	..
Unenumerated ..	..	42,100	..	..
Metal sheathing, other than copper	472 cwt.	1,325	..	..
Milk, preserved	781,422 lb.	15,310	£14,798	3,699 8 9
"	1,200 "	22	..	..
Millinery—				
Feathers, ornamental ..	..	1,687	£1,666	416 9 4
Other kinds	..	30,558	£30,482	7,620 10 11
Mustard	218,523 lb.	12,062	209,187 lb.	1,743 4 5
Nails—				
Iron	53,141 cwt.	33,197	53,188 cwt.	5,318 16 5
Unenumerated ..	33	82	31	4 11 9
Naptha	12,087 galls.	1,513	18,094 galls.	327 7 1
Nuts—				
Almonds, in shell ..	28,751 lb.	387	26,454 lb.	220 8 11
Almonds, shelled ..	36,352 "	1,902	36,127 "	451 11 8
Almonds, Barbary, &c. ..	93,569 "	2,619	..	..
Cocoa	225,462 No.	752	..	..
Unenumerated ..	66,759 lb.	671	64,407 lb.	536 14 6
Oakum	458 cwt.	591	..	..
Oars	2,557 No.	360	..	..
Oils—				
Castor, bulk	99,358 galls.	11,858	94,612 galls.	2,365 5 9
"	5,661 "	613	..	..
Castor, bottled ..	2,177 doz. pts	684	£694	104 2 4
Cod liver	18,068 galls.	2,892	..	..
Colza	17,104 "	2,123	15,613 galls.	390 6 7
"	8,447 "	1,142	..	..
Fish, penguin, and seal ..	33,235 "	2,437	..	..
Linseed	284,174 "	27,032	282,181 galls.	7,054 10 7
"	10,616 "	1,072	..	..
Mineral, kerosene ..	2,210,673 "	83,072	2,133,089 galls.	53,327 4 6
Mineral, other kinds ..	64,420 "	5,051	63,573 "	1,589 6 6
"	29,521 "	2,119	..	..
Neatsfoot	2,896 "	307	2,701 "	67 10 7
Olive, bulk	7,385 "	1,172	8,313 "	207 16 5
Olive, bottled	3,321 doz. pts	1,520	£1,385	207 13 10
Whale	464 galls.	58	..	..
Unenumerated, bulk ..	161,372 "	14,621	152,698 galls.	3,817 8 10
"	18,008 "	1,557	..	..
Unenumerated, bottled ..	7,073 doz. pts	2,898	£3,056	458 8 2
Unenumerated	26,748 galls.	1,565	..	..
Oilmen's stores	..	5,762	£5,714	1,142 14 9

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—continued.

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Onions	10,108 cwt.	4,547	9,979 cwt.	498 19 4
Opium	2,948 lb.	4,884	2,813 lb.	5,625 7 6
Paints and colours—				
Ground in oil	81,960 cwt.	34,569	81,598 cwt.	8,949 1 9
"	620 "	656	..	..
Mixed, ready for use ..	4,179 "	9,647	4,067 cwt.	1,016 14 1
Unenumerated	8,569 "	8,900	..	..
Paper—				
Bags, coarse	78 "	59	72 cwt.	27 8 9
Bags, other kinds	2,178 "	3,678	£3,700	925 1 0
Butter-paper	1,785 "	3,782	..	..
Hangings	797,106 pieces	21,024	£20,840	8,126 1 3
Printing	76,750 cwt.	76,621	..	..
Wrapping	8,759 "	4,112	£3,646	911 8 5
"	79 "	109	..	..
Writing	8,798 "	18,258	..	..
Unenumerated	175 "	387	..	..
Pearl barley	90 "	66	90 cwt.	4 9 7
Peas, split	1,115 "	489	1,147 "	114 13 11
Peel, candied and drained ..	12,565 lb.	290	11,851 lb.	148 2 10
Perfumery—				
Perfumed spirits, &c. ..	1,092 galls.	4,371	1,139 galls.	1,708 13 6
Toilet preparations	..	4,714	£4,559	1,139 15 6
"	..	27	..	..
Unenumerated	..	1,962	£1,841	460 2 7
"	..	4	..	..
Photographic goods (including chemicals) ..	..	3,604	£3,533	706 10 5
Ditto	..	17	..	..
Copper, glass, and zinc plates for photo-lithographic work ..	..	894	..	..
Photographic cameras and lenses	..	4,094	..	..
Sensitised surfaces for photographic purposes ..	..	8,866	..	..
Pickles	4,328 galls.	1,105	5,001 galls.	750 3 8
Picture-frames and mounts ..	..	762	£769	153 16 0
Pictures, paintings, drawings, engravings, and photographs	..	3,364	£3,154	630 17 2
Ditto	..	173	..	..
Family portraits	..	234	..	..
For museums, &c.	..	37	..	..
Pitch	560 cwt.	328	..	..
Plants, shrubs, &c.	..	1,908	..	..
Plaster of Paris	2,954 cwt.	790	..	..
Plate and plated ware	..	28,025	£25,641	5,128 5 0
Portmanteaux and travelling bags	..	3,693	£3,719	929 13 0
Ditto	..	2	..	..
Leather bags and leather-cloth bags	..	58	£58	11 12 0

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Potatoes	589 tons	£ 1,890	£1,890	£ 378 s. 2 d. 0
"	7 "	34	..	..
Printing materials—				
Stereotypes and matrices	..	71	£71	17 15 0
Type and materials, n.o.e.	..	8,317	..	..
Provisions n.o.e.	..	4,418	£4,419	883 14 11
"	..	50	..	..
Pumps	..	2,676	£2,237	447 7 4
Putty	4,023 cwt.	1,753	4,074 cwt.	407 7 5
Quicksilver	8,351 lb.	859	..	..
Rags	162 tons	725	..	..
Railway plant—				
Locomotives	4 No.	6,851	..	..
Unenumerated	..	2,594	£2,707	541 8 0
"	..	86,637	..	..
Resin	14,653 cwt.	4,374	..	..
Rice	59,286 "	35,882	50,775 cwt.	15,232 8 2
"	..	..	6,787 cwt.	678 13 6
Rugs, all kinds	..	10,191	£10,983	2,076 12 9
Saccharine	2,377 ozs.	357	2,109 oz.	158 3 6
Saddlery and harness (in-				
cluding whips)	..	26,274	£26,109	5,221 16 9
Ditto	..	25	..	..
Collar-check	..	2,400	..	..
Harness-oil, composition,	..	1,464	£1,454	290 16 0
and leather-dressing	..	199	..	..
Ditto	..	..	..	..
Saddlers' ironmongery	..	..	..	..
and materials	..	18,316	..	..
Salt	12,226 tons	29,128	12,271 tons	6,135 13 8
Rock	377 "	924	..	..
Saltpetre	65 "	1,573	..	..
Sauces	10,738 galls.	7,560	10,961 galls.	2,192 5 6
Sausage-skins	128,445 lb.	5,539	143,321 lb.	1,797 15 3
Seeds—				
Grass and clover	22,983 cwt.	51,771	..	..
Unenumerated	..	16,264	..	..
Shale	541 tons	2,800	..	..
Shells	435 cwt.	2,139	..	..
Ship-chandlery, n.o.e.	..	2,687	..	..
Silks, &c.	..	74,400	£74,144	18,535 19 6
For flour-dressing	..	148	..	..
Silver	677 oz.	98	..	..
Skins and pelts—				
Fur-skins	48 No.	4	..	..
Kangaroo and wallabi	..	..	..	..
skins	7,773 "	457	..	..
Unenumerated	6,801 "	504	..	..
Slates, roofing	295,850 "	2,678	..	..
Soap—				
Common	13 cwt.	20	13 cwt.	3 5 0
Powder, extract of soap, &c. ..	..	3,876	£4,109	821 16 0
Unenumerated	725,476 lb.	18,404	£18,338	4,584 10 1

GENERAL IMPORTS.

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GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—continued.

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Specie—		£		£ s. d.
Copper	..	1,155	..	..
Gold	..	550	..	..
Silver	..	59,317	..	..
Specimens illustrative of natural science ..	..	422	..	..
Spices—				
Ground	23,889 lb.	915	23,480 lb.	391 6 6
Unground	375,249 "	7,861	374,211 "	3,118 8 6
Spirits—				
Bitters, cordials, and liqueurs	1,882 gals.	1,956	1,990 gals.	1,592 2 6
Brandy	70,450 "	29,961	71,671 "	57,337 2 2
Geneva and gin, unsweetened	61,089 "	14,652	51,494 "	41,194 16 8
Methylated	1,366 "	143	1,364 "	68 4 3
Rum	16,837 "	3,311	19,399 "	15,519 7 2
Rum, used in the manufacture of tobacco ..	..	..	44 "	..
Sweetened, &c. ..	6,804 "	1,912	7,586 "	6,068 9 11
Whisky	357,981 "	124,065	320,957 "	256,765 12 9
Unenumerated ..	1,475 "	916	1,854 "	1,483 10 10
Spirits of wine ..	10 "	4	..	..
Methylated, in bond ..	19,893 "	1,424	1,838 "	1,470 4 9
Sponges	658 lb.	214	£230	470 18 10
Starch	160 "	118	..	46 0 0
Stationery—	816,333 "	9,327	856,215 lb.	7,135 2 6
Manufactured ..	..	36,944	£36,981	9,245 5 2
Unenumerated ..	..	2,848	..	..
Apparatus and appliances for teaching purposes ..	..	28,692	£28,360	5,672 0 4
Bookbinders' materials ..	..	5,872	..	..
Materials for cardboard-boxes	..	4,521	..	..
Unenumerated ..	..	5,079	..	..
Stearine	..	5,224	..	..
Stone—	..	3,691	..	..
Building	172,051 lb.	3,047	159,850 lb.	999 1 4
Flagging	144 tons	395	..	..
Granite, and other stone, dressed or polished, &c. ..	95 "	313	..	..
Stones Grind-, mill-, oil-, and whet-	..	2,038	£2,038	509 10 0
Sugar—	..	2,274	..	..
Raw	..	..	..	..
Refined	408,445 cwt.	201,922	576 lb.	1 4 0
Glucose	219,217 "	168,269	68,754,866 "	143,239 6 1
Molasses and treacle ..	2,587 "	1,547	299,890 "	1,249 10 10
Molasses and treacle, mixed with bone-black ..	4,428 "	1,669	2,043,790 "	4,267 17 11
	..	..	467 cwt.	..

GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
		£		£ s. d.
Sulphur	2,427 cwt.	957	..	..
Tanning materials, crude—				
Bark	4,170 tons	30,887	..	..
Other kinds	..	3,669	..	..
Tar	..	712	..	..
Tarpaulins, tents, &c. ..	..	663	£663	132 12 0
Tea	..	58	..	..
Tea	4,652,115 lb.	178,350	4,564,840 lb.	76,080 13 4
Textile piece-goods other than silk, cotton, linen, or woollen	..	9,760	£9,863	1,972 13 3
Articles made up from, other than apparel ..	..	10,570	£10,272	2,568 1 9
Timber—				
Laths and shingles ..	321,000 No.	435	383,340 No.	38 6 8
Logs	2,486 "	9,223	..	..
Logs, hewn	1,376,805 sup. ft.	12,873	..	..
Palings	247,590 No.	1,511	247,590 No.	247 11 7
Posts	3,175 "	108	3,175 "	12 14 0
Rails	5,100 "	167	5,100 "	10 4 0
Sawn, undressed ..	2,725,233 sup. ft.	19,071	2,713,937 sup. ft.	2,713 18 9
Sawn, dressed ..	1,574,938 "	13,486	..	..
Unenumerated ..	141,140 "	1,860	189,282 "	278 11 3
Tin—				
Block	2,287 cwt.	7,593	..	..
Foil	16,822 lb.	566	..	..
Sheet	41,534 cwt.	27,361	..	..
Tinware	..	9,770	£9,743	2,435 14 6
Tinsmiths' furnishings and fittings	..	889	..	..
Tobacco—				
Unmanufactured ..	51,173 lb.	2,593	47,360 lb.	4,736 0 0
Manufactured ..	1,490,807 "	110,058	1,371,044 "	239,932 13 4
Cigars	72,782 "	22,491	70,091 "	24,531 17 2
Cigarettes	121,659 "	29,560	45,801,000 No.	40,076 5 1
Snuff	..	..	6,123 oz.	153 1 7
Snuff	1,662 "	187	1,674 lb.	585 18 0
Tobacco used in the manufacture of insecticides ..	..	..	42½ lb.	..
Tobacco-pipes and cases ..	..	17,668	£17,548	4,387 2 3
Tools and implements—				
Axes and hatchets ..	..	8,996	..	..
Engineers' machine tools ..	..	6,060	..	..
Scythes	..	1,312	..	..
Sheep-shears	..	4,023	..	..
Spades, shovels, and forks ..	..	11,867	..	..
Unenumerated ..	..	57,908	..	..
Tramway plant	..	616	£615	123 0 0
Turpentine, driers, and terebene	70,575 gals.	7,118	..	..
Twine—				
Binder	1,066 cwt.	1,448	..	..

GENERAL IMPORTS.

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GENERAL IMPORTS INTO THE COLONY OF NEW ZEALAND DURING 1897—*continued.*

Articles.	Total Quantities Imported.	Value of Total Imports.	Entered for Home Consumption on Importation and ex Warehouse.	Amount of Duty received.
Twine— <i>continued.</i>		£		£ s. d.
Nets and netting ..	..	551	£477	95 8 0
Unenumerated ..	273,896 lb.	9,333	£9,239	1,847 14 11
" ..	1,636 "	94	..	..
" ..	..	63	..	..
Umbrellas and parasols ..	..	15,975	£15,750	3,149 18 4
Materials for ..	..	3,008	..	..
Varnish and gold size ..	37,911 gals.	17,557	37,856 gals.	3,785 16 8
" ..	23 "	11	..	..
Vegetables, fresh, dried, or preserved ..	..	525	£467	93 7 1
Vinegar ..	72,283 gals.	7,226	66,613 gals.	1,665 6 5
Watches ..	30,679 No.	20,913	£19,718	3,943 12 4
Watchmakers' materials ..	..	749	..	..
Wax—				
Paraffin, &c. ..	818,177 lb.	9,366	707,630 lb.	4,422 13 8
Beeswax ..	16 cwt.	97	..	..
Whalebone ..	8 "	6	..	..
Whiting and chalk ..	11,064 "	1,430	11,576 cwt.	578 16 4
Wine—				
Australian ..	40,973 galls.	13,581	41,586 galls.	10,306 8 5
Sparkling ..	8,678 "	15,780	7,192 "	3,236 12 1
Other kinds ..	59,769 "	20,837	56,282 "	16,884 11 8
" ..	12 "	4	..	..
Woodenware ..	..	6,942	£7,017	1,403 6 7
" ..	..	7,567	..	..
Mouldings ..	..	6,753	£6,810	1,021 10 5
Wool, greasy ..	14,828 lb.	374	..	..
Woollen piece-goods ..	..	272,446	£269,440	53,888 1 7
" ..	..	33	..	..
Blankets ..	34,105 pairs	14,514	£14,939	2,867 16 9
Woolpacks ..	33,938 doz.	25,353	..	..
Wool-pockets ..	399 "	191	..	..
Yarns ..	..	6,456	£6,451	1,290 5 1
Yarn, coir, flax, and hemp	..	5,620	..	..
Zinc—				
Perforated sheet ..	434 cwt.	770	..	..
Plain sheet ..	6,839 "	7,095	..	..
Spelter ..	3,775 "	3,823	..	..
Tiles, ridging, &c. ..	..	88	£98	17 12 0
Zinc manufactures n.o.e. ..	..	174	£176	43 19 0
Minor articles required in the making-up of apparel	..	6,955	..	..
Articles and materials suitable only for and to be used solely in the fabrication of goods in the colony ..	..	9,227	..	..
Goods, miscellaneous—				
Manufactured ..	..	7,816	..	..
Unmanufactured ..	..	5,721	..	..
Parcels Post ..	..	41,820	..	8,632 6 6

CUSTOMS REVENUE.

The Customs and excise duties received during the last five years are shown in detail, also the rate of revenue per head of mean population, inclusive and exclusive of Maoris, for each year:—

—	1893.	1894.	1895.	1896.	1897.
CUSTOMS DUTIES.	£	£	£	£	£
Spirits	357,662	338,457	340,972	362,923	384,218
Wine	32,641	28,412	27,102	28,846	30,518
Ale, Beer, &c. .. .	17,247	15,946	17,120	18,208	19,035
Cigars, Cigarettes, and Snuff	47,404	43,132	49,574	58,788	65,347
Tobacco	223,469	216,125	233,770	239,988	244,669
Tea	102,096	103,161	94,716	73,858	76,081
Coffee, Cocoa, &c. . .	7,021	6,145	5,677	5,495	5,722
Sugar and Molasses ..	124,870	133,107	137,493	141,933	148,748
Opium	8,046	7,061	5,969	5,409	5,625
Other Goods by Weight ..	159,173	155,557	160,482	172,733	187,498
" ad valorem ..	492,236	429,594	447,749	562,961	634,043
Other Duties	88,539	90,430	98,884	86,841	102,025
Parcels Post	5,279	5,340	5,462	7,090	8,632
Totals, Customs Duties	1,665,683	1,572,467	1,619,970	1,765,073	1,912,161
EXCISE DUTIES.					
Tinctures—New Zealand ..	..	..	53	200	983
Cigars, Cigarettes, and Snuff					
—New Zealand-manufactured ..	1,927	1,544	879	916	191
Tobacco — New Zealand-manufactured ..	1,708	2,239	1,431	1,663	2,358
Beer—New Zealand ..	60,920	60,092	61,705	67,287	71,765
Totals, Excise Duties	64,555	63,875	64,068	70,066	75,297
Revenue from Customs	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Duties per head of mean population (excluding Maoris) ..	2 10 4	2 6 4	2 6 9	2 9 11	2 13 0
Ditto (including Maoris) ..	2 7 4	2 3 7	2 4 2	2 7 3	2 10 3
Revenue from Excise Duties					
per head of mean population (excluding Maoris) ..	0 1 11.4 0	0 1 10.6	0 1 10.2 0	0 1 11.8	0 2 1.0
Ditto (including Maoris) ..	0 1 10.0 0	0 1 9.3	0 1 8.9 0	0 1 10.5	0 1 11.7

The Customs revenue for the year 1897 amounted to £1,912,161, and the excise duties to £75,297. The revenue from Customs was £2 13s. per head of population excluding Maoris, and £2 10s. 3d. if they be included. In 1888 the Customs revenue was £2 6s. 2d. per head of European population, and from that time the proportion increased slowly year by year until 1892, when it reached £2 11s. 6d. per head. During the next two years there was a falling-off; but 1895, 1896 and 1897 show increases, the proportion

for 1897 being higher than in any year since 1883. Details for ten years are given:—

CUSTOMS REVENUE PER HEAD OF EUROPEAN POPULATION.

	£	s.	d.		£	s.	d.
1888	2	6	2	1893	2	10	4
1889	2	7	10	1894	2	6	4
1890	2	9	3	1895	2	6	9
1891	2	9	7	1896	2	9	11
1892	2	11	6	1897	2	13	0

Dating from 1890, the taxation by way of Customs and excise duties together only increased from £2 11s. 2d. in that year to £2 11s. 11d. in 1896, but further to £2 15s. 1d. in 1897.

There was an alteration of tariff in 1895 in certain items, but the amount of duty paid for 1897 does not bear a higher proportion to the total value of imports for that year than the duty paid in 1894, prior to the new tariff, to the imports of that year.

Under these circumstances a rise in revenue from taxation would indicate a greater import of taxable articles, and show that purchasing power had increased. It is at least certain that the value of imports rose from £5,990,177, excluding specie, in 1894 to £7,994,201 in 1897, notwithstanding the change of tariff.

The new tariff of 1895 has been given in full in this book. The rates of duty levied during the year included 16s. per gallon on spirits; 30s. per gallon on perfumed spirits; 7s. per pound on cigars and snuff; 17s. 6d. per 1,000 of 2½lb. and under, and 6d. per ounce weight over 2½lb. per 1,000, on cigarettes; 3s. 6d. per pound on manufactured and 2s. on unmanufactured tobacco. Sparkling wine is charged 9s. a gallon; Australian, 5s.; other kinds, 6s.; ale and beer, 2s. The duty on tea is 4d. the pound; on cocoa, chocolate, and chicory, 3d.; raw coffee, 2d.; roasted, 5d. Sugar, molasses, and treacle pay ½d., and glucose 1d. per pound. Opium is charged 40s. per pound. The remainder of the Customs revenue, with small exception, is made up of charges on goods by weight, *ad valorem* duties, ranging from 5 to 40 per cent., and receipts from the foreign parcels post. There is also an excise duty of 1s. per pound on tobacco; 1s. 6d. per pound on cigars, cigarettes, and snuff; 3d. per gallon on beer; 9d. per pound on tinctures, &c., manufactured in the colony, containing more than 50 per cent. of proof spirit, and 3d. per pound when less than 50 per cent.

By "The Tobacco Excise Duties Act, 1896," the excise duty on cigarettes made in the colony is now (from the 31st December, 1896) 2s. 6d. per pound on machine-made and 1s. per pound on hand-made cigarettes.

"The Tobacco Act Amendment Act, 1896," enacts that all packages of manufactured tobacco shall be labelled before leaving the manufactory, and provides for the issue of warrants to use cutting-machines for cutting duty-paid manufactured tobacco for sale (or to be used in the manufacture of cigarettes by hand), and to manufacture cigarettes by hand, under certain conditions.

SECTION XIII.—EXPORTS AND TOTAL TRADE.

The values of each of the chief articles of export for the calendar year 1897 were:—

THE MINE.		AGRICULTURAL PRODUCTS.	
	£		£
Coal	69,595	Bran and sharps	30,279
Gold	980,204	Chaff	6,082
Silver and minerals ..	31,144	Flour	104,214
Total	1,080,943	Grain—	
THE FISHERIES.		Barley	5,353
Fish	17,198	Beans and peas	15,128
Oysters	1,644	Maize	2,054
Other	185	Malt	30,962
Total	19,027	Oats	167,229
THE FOREST.		Wheat	14,703
Fungus	10,240	Hops	13,565
Kauri-gum	398,010	Oatmeal	19,022
Timber—		Potatoes	20,992
Sawn and hewn ..	154,169	Seeds (grass and clover) ..	46,947
Other	2,120	Other	18,645
Total	564,539	Total	495,175
ANIMALS AND PRODUCE.		MANUFACTURES.	
Bacon and hams	18,560	Ale and beer	1,780
Beef and pork (salted) ..	6,151	Apparel	4,418
Butter	402,605	Cordage	1,002
Cheese	150,517	Leather	98,155
Hides	10,021	Phormium (New Zealand	
Live-stock—		hemp)	30,674
Cattle	2,176	Soap	2,038
Horses	4,736	Woollen manufactures ..	12,370
Sheep	4,240	Other manufactures ..	47,164
Pigs and other live-stock	822	Total	197,601
Preserved meats	78,235	Miscellaneous	6,651
Frozen meat	1,566,286	Total exports (colonial pro-	
Rabbit-skins	47,472	duce and manufactures) ..	9,596,267
Sausage-skins	45,328	Specie	275,771
Sheepskins and pelts ..	188,121	Other exports (British and	
Tallow	259,964	foreign)	144,955
Wool	4,443,144	Total exports	£10,016,993
Other	5,953		
Total	7,232,331		

The value of all the exports in 1897 was £10,016,993; the value of New Zealand produce exported, £9,596,267: being at the rate of £13 6s. per head of population. The following table gives the values of the several exports of New Zealand produce in each of the past ten years:—

Value of Exports New Zealand produced, 1888 and 1897.

Year ended 31st December, 1888 - £1,255,128.

£2,018,818	Other New Zealand Produce
£380,933	Kauri Gum
£914,309	Gold
£628,800	Frozen Meat
£197,170	Butter & Cheese
£3,115,098	Wool

Year ended 31st December, 1897 - £2,959,267

£1,655,501	Other New Zealand Produce
£398,010	Kauri Gum
£980,204	Gold
£1,566,286	Frozen Meat
£553,122	Butter & Cheese
£4,443,144	Wool

EXPORTS OF NEW ZEALAND PRODUCE.

Calendar Year.	Wool.	Gold.	Frozen Meat.	Butter and Cheese.	Agricultural Produce.	Manufactures	Other N.Z. Produce.	Total.
	£	£	£	£	£	£	£	£
1888	3,115,098	914,309	628,800	197,170	905,907	233,383	1,260,461	7,255,128
1889	3,976,375	785,490	783,374	213,945	1,424,297	569,880	1,288,647	9,042,008
1890	4,150,599	751,360	1,087,617	207,687	1,289,864	547,947	1,393,687	9,428,761
1891	4,129,686	1,007,172	1,194,724	236,933	894,467	420,357	1,516,755	9,400,094
1892	4,313,307	951,963	1,033,377	318,204	1,035,637	367,677	1,345,703	9,365,868
1893	3,774,738	915,921	1,085,167	354,271	716,546	345,636	1,365,164	8,557,443
1894	4,827,016	887,865	1,194,545	366,483	317,655	224,958	1,266,626	9,085,148
1895	3,662,131	1,162,181	1,262,711	378,510	326,029	188,702	1,409,889	8,390,153
1896	4,391,848	1,041,423	1,251,993	411,882	572,355	198,081	1,309,749	9,177,336
1897	4,443,144	980,204	1,566,286	553,122	495,175	197,601	1,360,735	9,596,267

The most important items of export under the heading "Other New Zealand Produce" are coal, silver, minerals, fish, oysters, fungus, kauri-gum, timber, bacon, salted and preserved meats, tallow, sheep- and rabbit-skins, hides, sausage-skins, and live stock. The aggregate value of these in 1897 was £1,345,826.

The above table shows that the value of the exports of New Zealand produce fell from £9,428,761 in 1890 to £9,400,094 in 1891, and again from £9,365,868 in 1892 to £8,557,443 in 1893, rose in 1894 to £9,085,148, fell in 1895 to £8,390,153, rose in 1896 to £9,177,336, and in 1897 to £9,596,267, an increase of £418,931 on the figures for the previous year.

Thus there was an increase since 1895, or in the two years 1896 and 1897, of exports to a value of £1,206,114, all New Zealand produce, and more than a complete recovery to the figures for 1890 and 1891, after which followed a decrease in values.

The export of wool, measured by quantity, rose from 102,817,077 lb. in 1890 to 135,835,117 lb. in 1897, or at the rate of 32.11 per cent., and that of frozen meat from 898,894 cwt. to 1,407,921 cwt.

Gold, too, which was exported to the quantity of 187,641 oz. in 1890, increased to 251,647 oz. in 1897.

Inasmuch as the money figures for the years ended 31st March are preferred to those of the calendar years by many persons for comparative purposes, on account of late or early shipments of wool, &c., another table is given containing such figures. This has been done by special request, and a table of quantities is also given, showing the volume of exports for the two financial periods:—

Year-ended 31st March.	Wool.	Gold.	Frozen Meat.	Butter and Cheese.	Agricultural Produce.	Manufactures	Other N.Z. Produce.	Total.
	£	£	£	£	£	£	£	£
1889	3,337,122	842,066	666,556	211,801	1,063,886	165,770	1,440,752	7,727,953
1890	4,204,372	776,652	862,184	228,091	1,398,999	675,132	1,268,870	9,414,800
1891	4,199,421	692,775	1,152,948	215,678	1,217,049	472,865	1,478,186	9,428,922
1892	4,207,873	1,104,981	1,194,890	287,102	887,856	408,585	1,485,053	9,576,340
1893	4,039,202	921,560	1,005,536	331,955	1,030,904	352,549	1,369,940	9,051,646
1894	4,325,246	970,221	1,045,707	348,971	609,552	305,594	1,315,598	8,920,889
1895	4,198,348	889,613	1,295,850	423,629	324,708	215,870	1,307,982	8,655,500
1896	4,299,407	1,196,059	1,318,317	373,686	370,577	195,214	1,405,571	9,158,831
1897	4,245,147	1,015,741	1,203,807	433,205	557,713	195,924	1,319,828	8,971,365
1898	4,651,995	976,199	1,738,934	583,862	473,747	192,099	1,436,011	10,052,847

18
QUANTITIES OF THE PRINCIPAL ARTICLES OF NEW ZEALAND PRODUCE
EXPORTED.

Items.	Year 1896-97.	Year 1897-98.	Increase in 1897-98.	Decrease in 1897-98.
The Mine:—				
Coal Tons	80,319	69,222	..	11,097
Gold Oz.	256,913	251,489	..	5,424
Silver "	112,832	200,434	87,602	..
Minerals Tons	1,307	3,444	2,137	..
The Fisheries:—				
Fish Cwt.	9,842	9,496	..	346
Oysters Doz.	355,880	245,904	..	109,976
The Forest:—				
Fungus Cwt.	4,606	7,011	2,405	..
Gum (kauri) .. Tons	7,278	6,717	..	561
Timber (sawn and hewn) Ft.	33,004,341	42,920,633	9,916,292	..
Animals and Produce:—				
Bacon and hams .. Cwt.	7,026	3,686	..	3,340
Beef (salted) .. "	5,686	5,795	109	..
Butter "	75,291	105,857	30,566	..
Cheese "	71,678	78,849	7,171	..
Hides No.	6,546	16,415	9,869	..
Live-stock "	3,914	6,331	2,417	..
Meat (preserved) .. Cwt.	46,302	45,922	..	380
" (frozen) "	1,069,719	1,621,568	551,849	..
Sausage-skins .. "	9,433	9,213	..	220
Skins (rabbit) .. No.	10,293,133	7,834,375	..	2,458,758
" (sheep) "	3,097,032	4,335,060	1,238,028	..
Tallow Tons	12,229	16,344	4,115	..
Wool Lb.	127,766,715	147,171,547	19,404,832	..
Agricultural Products:—				
Bran and sharps .. Tons	4,741	8,590	3,849	..
Chaff "	4,154	1,592	..	2,562
Flour "	9,082	7,264	..	1,818
Grain (barley) .. Bush.	28,369	27,992	..	377
" (beans and peas) .. "	48,487	72,390	23,903	..
" (malt) "	140,135	109,549	..	30,586
" (oats) "	2,069,518	1,453,121	..	616,397
" (wheat) "	428,029	26,817	..	401,212
" (maize) "	499	63,932	63,433	..
Hops Cwt.	1,610	2,718	1,108	..
Meal (oat) "	30,500	36,258	5,758	..
Potatoes Tons	2,909	7,877	4,968	..
Seeds (grass and clover) Cwt.	35,132	43,205	8,073	..
Manufactures:—				
Leather Cwt.	17,775	19,843	2,068	..
Phormium Tons	2,830	2,389	..	441

Some of the most important proportional increases and decreases are stated, and the development shown is indeed excellent in regard to frozen meat, 51·59 per cent. increase; butter, 40·60 per cent.; wool, 15·19 per cent., and so on, with many other articles of New Zealand produce.

INCREASES.

Export of		Rate of Increase per Cent. in 1897-98.	Export of		Rate of Increase per Cent. in 1897-98.
Potatoes	.. Tons	.. 170.78	Butter	.. Cwt.	.. 40.60
Minerals	.. "	.. 163.50	Sheepskins	.. No.	.. 39.98
Hides	.. No.	.. 150.76	Tallow	.. Tons	.. 33.65
Bran and sharps	Tons	.. 81.19	Timber	.. Ft.	.. 30.05
Silver	.. Oz.	.. 77.68	Seeds	.. Cwt.	.. 22.98
Hops	.. Cwt.	.. 68.82	Meal (oat)	.. Centals	.. 18.88
Live Stock	.. No.	.. 61.75	Wool	.. Lb.	.. 15.19
Fungus	.. Cwt.	.. 52.21	Leather	.. Cwt.	.. 11.63
Frozen meat	.. "	.. 51.59	Cheese	.. Cwt.	.. 10.00
Beans and Peas	Bush.	.. 49.30	Beef (salted)	.. Cwt.	.. 1.92

DECREASES.

Export of		Rate of Decrease per Cent. in 1897-98.	Export of		Rate of Decrease per Cent. in 1897-98.
Wheat	.. Bush.	.. 93.73	Phormium	.. Tons	.. 15.58
Chaff	.. Tons	.. 61.68	Coal	.. "	.. 13.82
Bacon and hams	Cwt.	.. 47.54	Gum (kauri)	.. "	.. 7.70
Oysters	.. Doz.	.. 30.90	Fish	.. Cwt.	.. 3.52
Oats	.. Bush.	.. 29.78	Sausage-skins	.. "	.. 2.33
Rabbitskins	.. No.	.. 23.89	Gold	.. Oz.	.. 2.11
Malt	.. Bush.	.. 21.83	Barley	.. Bush.	.. 1.33
Flour	.. Tons	.. 20.02	Preserved meat	Cwt.	.. 0.82

The next table shows the declared values of the chief articles exported in the years ending 31st March, 1897 and 1898, with increases and decreases. A striking increase is exhibited of £1,081,482 for the year 1897-98, on a total export for the previous year amounting to £8,971,365, being at a rate of 12.05 per cent. This increase and more is found in the group "Animals and Produce," where a total of value for 1896-97 amounting to £6,505,521 expands by the sum of £1,178,290, or a rate of 18.11 per cent.

		Year 1896-97.	Year 1897-98.	Increase in 1897-98.	Decrease in 1897-98.
THE MINE.		£	£	£	£
Coal	..	72,477	62,495	..	9,982
Gold	..	1,015,741	976,199	..	39,542
Silver and minerals	..	17,406	34,091	16,613	..
Total	..	1,105,624	1,072,713	..	32,911
THE FISHERIES.					
Fish	..	17,031	16,451	..	580
Oysters	..	2,283	1,730	..	553
Other	..	1,951	125	..	1,826
Total	..	21,265	18,306	..	2,959
THE FOREST.					
Fungus	..	7,292	11,179	3,887	..
Kauri-gum	..	433,554	414,894	..	18,660
Timber—					
Sawn and hewn	..	128,124	167,245	39,121	..
Other	..	3,301	2,877	..	424
Total	..	572,271	596,195	23,924	..

	Year 1896-97.	Year 1897-98.	Increase in 1897-98.	Decrease in 1897-98.
	£	£	£	£
ANIMALS AND PRODUCE.				
Bacon and hams	20,326	12,430	..	7,896
Beef (salted)	6,043	6,099	56	..
Butter	297,469	429,407	131,938	..
Cheese	135,736	154,455	18,719	..
Hides	5,579	15,254	9,675	..
Live-stock	17,988	13,841	..	4,147
Preserved meats	78,163	80,199	2,036	..
Frozen meat	1,203,807	1,738,934	535,127	..
Rabbit-skins	62,461	46,399	..	16,062
Sausage-skins	44,827	43,836	..	991
Sheepskins and pelts	162,899	213,168	50,269	..
Tallow	218,935	271,810	52,875	..
Wool	4,245,147	4,651,995	406,848	..
Other	6,141	5,984	..	157
Total	6,505,521	7,683,811	1,178,290	..
AGRICULTURAL PRODUCTS.				
Bran and sharps	15,790	28,538	12,748	..
Chaff	12,708	5,788	..	6,920
Flour	90,352	75,917	..	14,435
Grain—				
Barley	3,981	4,445	464	..
Beans and peas	9,453	15,721	6,268	..
Maize	72	10,836	10,764	..
Malt	92,463	27,885	..	4,578
Oats	201,059	152,722	..	48,337
Wheat	76,135	5,190	..	70,945
Hops	7,724	13,592	5,868	..
Oatmeal	14,284	19,081	4,797	..
Potatoes	8,888	21,677	12,789	..
Seeds (grass and clover)	69,368	72,459	3,091	..
Other	15,436	19,896	4,460	..
Total	557,718	473,747	..	83,966
MANUFACTURES.				
Apparel	4,621	3,349	..	1,272
Leather	85,400	99,589	14,189	..
Phormium (New Zealand hemp)	31,732	26,254	..	5,478
Woollen manufactures	19,223	10,041	..	9,182
Other manufactures	60,948	52,866	..	8,082
Total	195,924	192,099	..	3,825
Miscellaneous	13,047	15,976	2,929	..
Total exports (colonial produce and manufactures)	8,971,365	10,052,847	1,081,482	..
Specie	22,041	273,500	251,459	..
Other exports (British and foreign)	125,721	181,277	5,556	..
Total exports	£9,119,127	10,457,624	1,338,497	..

Re-exports.

The re-export trade of the colony would seem from the sub-joined figures to have been almost stationary for the last ten years:—

EXPORTS OF BRITISH, FOREIGN, AND OTHER COLONIAL PRODUCE (EXCLUDING SPECIE).

			£				£
1888	..	..	148,078	1893	..	..	123,402
1889	..	..	139,347	1894	..	..	136,402
1890	..	..	140,555	1895	..	..	127,966
1891	..	..	160,765	1896	..	..	122,571
1892	..	..	125,052	1897	..	..	144,955

With these sums may be contrasted the re-export trade of New South Wales—a colony having less than double the population of New Zealand—which, exclusive of specie, amounted in 1896 to £4,066,470.

Exports from the North and Middle Islands.

The exports from the North and Middle Islands respectively, excluding “Parcels post,” during the two years were as under:—

Year.	North Island.	Middle Island.	Proportion to Total Export.
	£	£	North Island. Middle Island.
1896 ..	4,545,241	4,768,143	48·80 51·20
1897 ..	4,428,824	3,584,579	55·27 44·73

The North Island now exports 55 per cent., or more than half of the total for the two islands.

Wool exported and produced.

The quantity of wool exported in 1897 was 135,835,117 lb., valued at £4,443,144. The annual production, however, can be better estimated by taking the exports for the twelve months immediately preceding the commencement of shearing, and adding thereto the quantity used in the colony for manufacturing purposes.

The following shows the produce for each of the last ten years ending with the 30th September:—

Year ending 30th September.	Quantity exported.	Quantity purchased by Local Mills.	Total Annual Produce.
	Lb.	Lb.	Lb.
1888	89,276,268	4,079,563	93,355,831
1889	95,618,507	3,556,004	99,174,511
1890	102,522,185	2,979,293	105,501,478
1891	108,619,473	2,918,073	111,537,546
1892	110,860,050	3,388,954	114,249,004
1893	119,643,874	2,629,855	122,273,729
1894	128,480,457	2,476,155	130,956,612
1895	129,333,769	3,299,132	132,632,901
1896	128,309,673	3,989,934	132,299,607
1897	134,410,955	3,298,469	137,709,424

From these figures it appears that the wool-clip has increased by 47·50 per cent. within the last ten years.

To arrive at a perfectly correct estimate of the increase in wool production it would be necessary to take into consideration the proportion of greasy, scoured, and washed wool exported each year, the washing process of course greatly reducing the weight. The percentages of greasy, scoured, and washed wool to the total quantities exported during the last five years are :—

Years				Greasy. Per Cent.	Scoured. Per Cent.	Washed. Per Cent.
1893	..	..	..	77·65	14·86	7·49
1894	..	..	..	81·27	11·13	7·60
1895	..	..	..	73·42	14·81	11·77
1896	..	..	..	77·89	20·74	1·37
1897	..	..	..	78·87	19·96	1·17

The increase in the wool-production is, of course, mainly due to the greater number of sheep—namely, 19,687,954 in April, 1897, against 15,155,626 in May, 1887. It will be apparent from the following table that the tendency of increase is towards the multiplication of the smaller flocks, whose owners are better able to cope with the rabbit difficulty than the large runholders :—

NUMBER OF FLOCKS, 1888 TO 1897.

Size of Flocks.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Under 500 ..	6,579	7,063	7,662	8,272	8,822	9,629	10,314	11,336	12,028	12,706
500 and under 1,000	1,182	1,381	1,528	1,691	2,033	2,239	2,427	2,497	2,605	2,623
1,000 and under 2,000	794	826	854	969	1,193	1,315	1,409	1,405	1,460	} *2,421
2,000 and under 5,000	524	597	586	666	761	836	933	904	892	
5,000 and under 10,000	287	279	283	287	314	341	345	341	340	347
10,000 and under 20,000	213	239	236	239	231	241	230	232	231	226
20,000 and upwards	166	152	160	169	176	178	179	183	147	145
Total ..	9,745	10,537	11,309	12,293	13,530	14,779	15,837	16,898	17,703	18,468

* From 1,000 to 2,500, 1,806 flocks; from 2,500 to 5,000, 615 flocks.

The wool production and distribution for the world is given from the Victorian Year-book, 1894 :—

Countries.	Wool produced, 1891.*	Countries.	Wool produced, 1891.*
Europe—		Australasia ..	661,164,000
United Kingdom ..	147,475,000	Argentine Republic ..	376,700,000
France ..	124,803,000	Cape Colony and Natal	128,682,000
Germany ..	54,894,000	Uruguay ..	42,000,000
Belgium ..	4,409,000	East Indies ..	72,000,000
Austria-Hungary ..	54,301,000	Russia (Asiatic) ..	66,000,000
Italy ..	21,385,000	Mesopotamia ..	31,555,000
All other European countries ..	8,818,000	Turkey (Asiatic), Persia, Afghanistan, Beluchistan, and Tibet ..	20,500,000
Portugal ..	10,362,000	Peru ..	6,700,000
Sweden ..	3,307,000	Persia ..	3,470,000
Spain ..	66,138,000	Egypt ..	2,800,000
Russia and Poland ..	291,500,000	Brazil ..	1,875,000
		British North American Provinces ..	12,000,000
		United States..	307,100,000
		All other countries ..	48,000,000
Total Europe ..	787,392,000	Total out of Europe	1,780,546,000
Grand total ..	..	..	2,567,938,000 lb.

The centres of wool-production have gradually shifted, as will be seen by the next table,† showing the percentage of the total imports into the United Kingdom at different periods:—

—	1844.	1850.	1860.	1870.	1880.	1890.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
British Possessions—						
Australasia ..	26·8	52·5	39·9	66·5	64·9	66·2
South Africa ..	3·3	7·7	11·2	12·5	11·1	13·8
East Indies ..	4·2	4·7	13·6	4·2	6·3	5·4
Germany ..	33·2	12·3	12·4	1·7	1·5	1·1
South America ..	5·7	7·1	6·0	4·8	2·2	1·8

At the beginning of this century most of the merino wool required for manufacture in England was obtained from Spain. In 1820 (about) Spanish wool was superseded by merino wool from Saxony and Silesia; some twenty years later, Australasian wools began to take the place of the German merino, and have ever since held command of the market.

Frozen Meat exported.

Frozen meat now takes second place among the exports of New Zealand produce. In 1897, 1,407,921 cwt., valued at £1,566,286, were shipped in the colony. An account of the development of

* The figures for this table, excepting those for Australasia, have been compiled from information contained in a report issued by the Department of Agriculture, Washington, United States, 1893.

† Taken from "Wool and Manufactures of Wool," published by the Bureau of Statistics, Treasury Department, U.S.A.

the industry was given in a special article in the Year-book, 1894. The total export for each year since the commencement of the trade has been :—

Year.	Lb.	Year.	Lb.
1882	1,707,328	1890	100,934,756
1883	9,853,200	1891	110,199,082
1884	28,445,228	1892	97,636,557
1885	33,204,976	1893	100,262,453
1886	38,758,160	1894	114,827,216
1887	45,035,984	1895	127,018,864
1888	61,857,876	1896	123,576,544
1889	73,564,064	1897	157,687,152

To ascertain the total value of the meat-export in 1897 it is necessary to take into consideration, with the amount of £1,566,286, value of frozen meat before stated, the value of preserved meats, £78,235; of salted beef and pork, £6,151; and of bacon and hams, £13,560.

Gold exported.

The amount of gold exported in 1897 was 251,645 oz.

The total quantity of gold entered for duty to the 31st December, 1897, which may be reckoned as approximately the amount obtained in the colony, was 13,565,552 oz., of the value of £53,372,634. For fuller information see Section XV.—“Mining.”

Grain exported.

The value of the grain exported in 1897 was £235,429. The grain exports were made up as under :—

	Bushels.	£
Wheat	72,167	14,703
Oats	1,600,458	167,229
Barley	34,986	5,353
Malt	124,612	30,962
Maize	18,697	2,054
Peas and beans	68,967	15,128
Total quantity and value ..	1,919,887	£235,429

Butter and Cheese exported.

The quantity of butter exported amounted to 99,002 cwt., the declared value of which was £402,605. Of this quantity, 79,849 cwt., valued at £315,696, were shipped to the United Kingdom; 11,440 cwt., value £51,055, to New South Wales; 3,189 cwt., value £14,430, to Victoria; 805 cwt., value £4,089, to Western Australia; 387 cwt., value £1,636, to Fiji; and 469 cwt., value £2,335, to the South Seas.

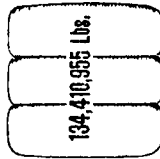
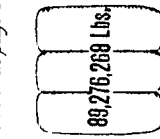
The cheese exported was 77,683 cwt., of a declared value of £150,517, of which 67,681 cwt., valued at £129,477, were sent to the

Export of Certain Principal Articles, the produce of the Colony, 1888 and 1897.

Wool.

(Year ended 30th September)

See table on page 331.



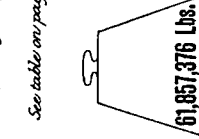
1888

1897

Frozen Meat

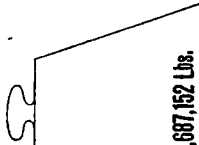
In 1882 (first year) the Export was 1,707,328 lbs.

See table on page 334.



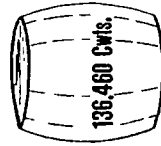
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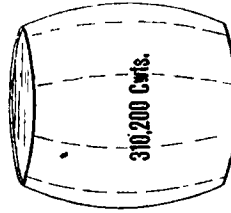


1897

Gallow.



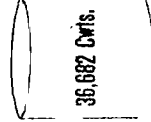
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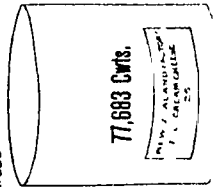
1897

Cheese.

See table on page 335



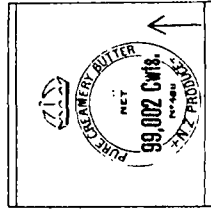
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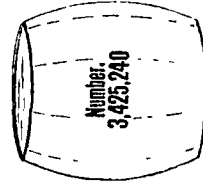
1897

Butter.

See table on page 335



1888



1897



1888

1897

Pelts.

SHEEPSKINS.

United Kingdom; 5,518 cwt., value £11,304, to New South Wales; 1,138 cwt., value £2,659, to Victoria; 2,287 cwt., value £4,633, to Western Australia; and 480 cwt., value £1,043, to the other Australian Colonies. While the quantity of butter exported—99,002 cwt.—in 1897 shows an increase of 230 per cent. on the quantity exported in 1888, the increase in the export of cheese during the ten-year period has been at the rate of 112 per cent.—77,683 cwt. in 1897, as against 36,682 cwt. in 1888.

The following statement shows the total quantity of butter and cheese exported in the past ten years, and the amount of either commodity sent to the United Kingdom:—

Year.	Total Export of Butter	Butter Exported to the United Kingdom.	Total Export of Cheese.	Cheese Exported to the United Kingdom.
	Cwt.	Cwt.	Cwt.	Cwt.
1888	29,995	11,460	36,682	25,436½
1889	37,955	21,099	26,558	7,633
1890	34,816	26,579	40,451	31,043
1891	39,430	28,989	39,770	29,565
1892	53,930	41,509	41,493	30,000
1893	58,149	52,363	46,261	41,567
1894	60,771	58,845	55,655	54,540
1895	57,964	55,194	76,743	73,369
1896	71,353	60,092	71,872	58,692
1897	99,002	79,849	77,683	67,681

Phormium exported.

The export of phormium fell from 2,968 tons in 1896 to 2,769 tons in 1897. The market price continues low—averaging under £12 a ton—a state of things not encouraging to producers. Any considerable rise in the value of the fibre will doubtless result in temporarily increasing the output; but a large permanent development of this industry depends on the cultivation and careful selection of the plants used, and on improvements in the method of preparing the fibre. The largest quantity ever exported in a year was in 1890, when 21,158 tons were sent out of the colony.

Kauri-gum exported.

There were 6,641 tons of kauri-gum, valued at the rate of £59 18s. 8d. a ton, exported from the colony in 1897. In the year 1892 the export was as high as 8,705 tons. This gum is obtained only in the extreme northern part of the colony.

Exports from different Ports, &c.

The following table gives the values of the exports from each port in New Zealand for the last two years, arranged in order of magnitude for 1897:—

	1897.	1896.
	£	£
Lyttelton	2,073,553	1,694,850
Wellington	1,509,960	1,489,753
Auckland	1,365,040	1,276,035
Dunedin	1,043,506	1,052,285
Napier	1,032,072	849,131
Invercargill and Bluff	664,186	715,413
Timaru	518,025	539,387
Poverty Bay	332,861	317,970
Wanganui	320,327	288,565
New Plymouth	302,195	204,612
Oamaru	251,373	247,198
Greymouth	165,084	228,200
Wairau and Picton	122,361	118,866
Kaipara	105,181	76,812
Nelson	63,681	59,530
Hokitika	60,910	74,474
Patea	46,638	42,361
Westport	31,885	37,940
Tauranga	2	2

Total Value of Trade.

The total value of the external trade in 1897 was £18,072,216, equivalent to £25 0s. 11d. per head of the population, excluding Maoris. The figures given further on show that the ratio of trade to population has varied but little for several years. The highest record was in 1873, when the total trade per head reached £41 19s. 3d.; the imports, in consequence of the large expenditure of borrowed money, amounting at that time to £22 9s. 4d. per head, against £11 3s. 3d. in 1897.

It has been customary to leave out the Maoris in estimating the trade per head, for their industries and necessities swell the volume of trade in comparatively so slight a measure that the amount per head of European population can be more truly ascertained by omitting them altogether.

The values of imports and exports per head of population, excluding Maoris, were, for each of the past ten years, as follow:—

Year.	Imports per Head.	Exports per Head.	Total.
	£ s. d.	£ s. d.	£ s. d.
1888	9 16 4	12 16 7	22 12 11
1889	10 5 6	15 4 5	25 9 11
1890	10 0 2	15 13 8	25 13 10
1891	10 6 6	15 3 10	25 10 4
1892	10 16 3	14 16 11	25 13 2
1893	10 9 0	13 11 9	24 0 9
1894	9 19 11	13 11 10	23 11 9
1895	9 4 10	12 7 0	21 11 10
1896	10 1 11	13 9 9	23 5 8
1897	11 3 3	13 17 8	25 0 11

Trade with different Places.

The trade with the United Kingdom in 1897 amounted to £13,560,861, comprising 75·04 per cent. of the total.

With the Australian Colonies and Tasmania, trade was done during 1897 to the value of £2,324,787; of which New South Wales claimed £1,283,274, and Victoria £678,401, made up as follows:—

EXPORTS FROM NEW ZEALAND.

				£
To New South Wales, 1897	..	..	..	735,850
„ Victoria, 1897	..	..	..	387,782

EXPORTS TO NEW ZEALAND.

				£
From New South Wales, 1897	..	..	..	547,424
„ Victoria, 1897	..	..	..	290,619

The latter amounts are the declared values of the imports into New Zealand from the colonies mentioned, not their export value as given in the New South Wales and Victorian returns.

Included in the exports to New Zealand from New South Wales is coal valued at £96,885.

Trade with Fiji showed a decrease during the year. In 1890 it was £184,684; in 1891, £221,603; in 1892, £214,183; in 1893, £194,729; in 1894, £266,239; in 1895, £259,085; in 1896, £267,476; and in 1897, £256,172. The trade with the other Pacific Islands (including Norfolk Island) decreased from £160,542 in 1896 to £144,786 in 1897.

Of the exports to the United States in 1897 the values of the principal New Zealand products were: Coals, £1,554; kauri-gum, £218,438; sheepskins, £6,540; sausage-skins, £22,557; rabbit-skins, £5,560; hides, £5,505; wool, £1,709; and phormium, £3,827.

The following table shows the value of the total trade with the United States for each of the past ten years:—

TRADE WITH THE UNITED STATES.

Year.	Imports from		Exports to		Total Trade.
	Atlantic Ports.	Pacific Ports.	Atlantic Ports.	Pacific Ports.	
	£	£	£	£	£
1888	285,864	37,205	204,302	119,414	646,785
1889	307,156	35,280	242,778	98,584	683,798
1890	321,047	34,348	364,332	218,802	938,529
1891	317,913	43,882	395,886	119,822	877,008
1892	344,799	36,828	459,314	61,483	902,424
1893	345,743	33,635	430,842	65,706	875,926
1894	359,196	35,495	230,829	56,367	681,887
1895	351,823	42,410	298,536	18,103	710,872
1896	419,689	73,151	263,564	63,025	819,429
1897	521,939	106,105	252,013	123,083	1,003,140

The trade with India and Ceylon reached a total of £306,434, against £224,140 in 1896. The imports—tea, rice, castor-oil, wool-packs, &c.—were reckoned at £303,624, leaving a balance of only £2,810 for exports.

The following table gives the value of the imports and exports of the Australasian Colonies for the year 1896 :—

Colony.	Total Value of		Excess of Exports over Imports.	Excess of Imports over Exports.
	Imports.	Exports.		
	£	£	£	£
Queensland	5,433,271	9,163,726	3,730,455	..
New South Wales	20,561,510	23,010,349	2,448,839	..
Victoria	14,554,837	14,198,518	..	356,319
South Australia	7,160,770	7,594,054	433,284	..
Western Australia	6,493,557	1,650,226	..	4,843,331
Tasmania	1,192,410	1,496,576	304,166	..
New Zealand	7,137,320	9,321,105	2,183,785	..

In the preceding table is given the total trade inwards and outwards of each colony, counting twice over the value of goods produced in one colony and carried thence into another, and reckoning the same goods three times where they are imported from without into one colony and re-exported thence in the same year into another colony. But, in order to form a just idea of the trade of the Australasian Colonies as a whole, it is necessary to eliminate the inter-colonial traffic altogether. From the following table the value of imports and exports exchanged between the various colonies has accordingly been excluded :—

EXTERNAL TRADE OF AUSTRALASIA.

Year.	Total Trade.	Imports.	Exports.	Excess of Imports.	Excess of Exports.
	£	£	£	£	£
1885 ..	72,220,444	41,136,038	31,084,406	10,051,632	..
1890 ..	75,143,818	38,451,160	36,692,658	1,758,502	..
1891 ..	84,565,778	41,325,033	43,240,745	..	1,915,712
1892 ..	75,325,933	34,529,501	40,796,432	..	6,266,931
1893 ..	67,788,738	27,925,990	39,862,748	..	11,936,758
1894 ..	65,192,202	26,063,630	39,128,572	..	13,064,942
1895 ..	67,624,317	27,425,725	40,198,592	..	12,772,867
1896 ..	74,511,262	34,420,596	40,090,666	..	5,670,070

It will be observed that in the year 1885 the excess of imports over exports for Australasia amounted to no less a sum than £10,051,632, and that five years later the excess of imports had fallen to £1,758,502. In 1891 the position was completely re-

versed, the exports exceeding the imports by £1,915,712. This excess increased to £6,266,931 in the following year (1892), and to £13,064,942 in 1894, but decreased to £12,772,867 in 1895, and to £5,670,070 in 1896.

The trade per head of the population in each of the colonies in 1896 was:—

TRADE PER HEAD OF THE POPULATION IN 1896.

Colony.	Mean Population.	Imports.	Exports.	Total Trade.
		£ s. d.	£ s. d.	£ s. d.
Queensland	466,364	11 13 0	19 13 0	31 6 0
New South Wales	1,287,755	15 19 4	17 17 4	33 16 8
Victoria	1,177,435	12 7 3	12 1 2	24 8 5
South Australia	351,813	20 7 1	21 11 8	41 18 9
Western Australia	122,809	52 17 6	13 8 9	66 6 3
Tasmania	163,473	7 5 11	9 3 2	16 9 1
New Zealand (exclusive of Maoris)	706,846	10 1 11	13 3 9	23 5 8

The values of the exports of the Australian Colonies, more especially New South Wales, Victoria, and South Australia, are largely increased by the inclusion of articles the produce or manufacture of other colonies and countries.

The value of home productions or manufactures exported from each colony in 1896, and the rate per head of mean population, were as follow:—

Colony.	Home Produce exported.	Per Head of Population.
	£	£ s. d.
Queensland	8,924,186	19 2 9
New South Wales	16,742,691	13 0 0
Victoria	11,054,824	9 7 9
South Australia	3,269,612	9 5 10
Western Australia	1,603,748	13 1 2
Tasmania	1,473,429	9 0 3
New Zealand	9,177,336	12 19 8

The next table sets forth the amount of the trade of each of the above-named colonies with the United Kingdom in 1896:—

Colony.	Imports from the United Kingdom.	Exports to the United Kingdom.	Total Trade with the United Kingdom.
	£	£	£
Queensland	2,472,493	3,559,058	6,031,551
New South Wales	7,190,115	8,375,883	15,565,998
Victoria	5,923,417	6,704,104	12,627,521
South Australia	2,220,611	2,286,740	4,507,351
Western Australia	2,057,635	508,755	2,566,390
Tasmania	379,930	173,867	553,797
New Zealand	4,714,476	7,541,981	12,256,457

The statement appended shows the relative importance of the Australasian Colonies as a market for the productions of the United Kingdom :—

EXPORTS OF HOME PRODUCTIONS FROM THE UNITED KINGDOM, IN 1896, TO—

	£
British India and Ceylon	31,103,596
Germany	22,244,405
Australasia	21,888,292
United States	20,424,225
France	14,151,512
South Africa	13,821,357
Holland	8,333,935
Belgium	7,816,152

The exports to other countries did not amount to £7,000,000 in any one case.

The Australasian Colonies as a whole, with a population of about 4,500,000, thus take the third place in importance as consumers of British produce, the exports thereto being more than two-thirds the value of similar exports to British India, with its 290,000,000 inhabitants.

DETAILS OF ALL EXPORTS, 1897.

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Acid, acetic	lb. ..	560	..	17	17
Agricultural implements .. .. .	.. ..	..	3,474	185	3,659
Ambergris	lb. ..	1½	..	39	39
Animals, living—					
Birds	No. ..	11	9	..	9
Bees .. .. .	.. ..	..	13	..	13
Dogs	No. ..	37	90	35	125
Horses .. .. .	.. ..	132	4,736	723	5,459
Horned cattle	" ..	407	2,176	..	2,176
Pigs	" ..	217	390	..	390
Poultry	" ..	2,434	320	..	320
Sheep	" ..	3,009	4,240	..	4,240
Apparel and slops .. .. .	.. ..	..	4,418	4,638	9,056
Arms and ammunition—					
Caps, percussion	No. ..	22,000	..	4	4
Cartridges	" ..	3,500	21	6	27
Cartridge cases .. .. .	.. ..	33	..	18	18
Dynamite	lb. ..	200	..	19	19
Firearms	No. ..	4	7	567	574
Ordnance stores .. .. .	.. ..	..	..	1,211	1,211
Powder, sporting	lb. ..	1,875	..	169	169
" blasting		400	..	16	16
Shot	cwt. ..	1	7½	14	14
Swords	No. ..	..	5	..	5

DETAILS OF ALL EXPORTS.

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DETAILS OF ALL EXPORTS, 1897—continued.

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
Bacon and hams—			£	£	£
Bacon cwt.	2,527	..	7,618	..	7,618
Hams "	1,601	..	5,942	..	5,942
Bags and sacks—					
Cornsacks doz.	301	2,521	45	510	555
Unenumerated "	2,054	12,447	203	1,463	1,666
Bagging and sacking "	..	..	2	..	2
Bark tons	117½	..	556	..	556
Basketware "	..	..	1	..	1
Beer galls.	18,599	7,455	1,780	1,607	3,387
Beverages, non-alcoholic—					
Aerated and mineral waters, doz	1,921	46	965	16	381
Bicycles No.	6	335	131	4,458	4,589
" materials for "	..	..	..	776	776
Biscuits, fancy lb.	3,608	..	85	..	85
" ship's plain cwt.	4,405	..	4,370	..	4,370
Blue lb.	..	2,760	..	101	101
Boats No.	11	..	735	..	735
Bones tons	13	..	45	..	45
Books, printed "	..	..	6,498	1,521	8,019
Boots and shoes doz. pairs	135	132	660	469	1,129
Borax cwt.	3	..	5	..	5
Bran tons	6,768	..	21,931	..	21,931
Brass manufactures "	..	..	6	9	15
Bricks—					
Building No.	12,300	..	34	..	34
Fire "	1,450	..	14	..	14
Brushware "	..	..	6	22	28
Buckets and tubs doz.	2	..	1	..	1
Butter cwt.	99,002	..	402,605	..	402,605
Candles lb.	690	3,150	17	67	84
Canes and rattans "	..	..	14	..	14
Canvas "	..	..	..	5	5
Carpeting and druggeting "	..	..	..	92	92
Carriages and carts No.	7	6	253	214	467
Carts, drays, and wagons "	5	..	54	..	54
Perambulators "	11	..	40	..	40
Materials for "	..	..	..	16	16
Casks, empty No.	328	1,482	119	513	632
Cement casks	115	92	66	58	124
Chaff tons	1,713	..	6,082	..	6,082
Chains cwt.	..	98	..	98	98
Cheese "	77,683	..	150,517	..	150,517
Chinaware "	..	..	..	497	497
Clocks No.	..	511	..	502	502
Coals tons	76,073	6,323	69,595	5,778	75,373
Cocoa and chocolate lb.	..	1,190	..	84	84
Coffee, raw "	..	58,683	..	2,018	2,018
" roasted "	..	739	..	46	46

DETAILS OF ALL EXPORTS, 1897—continued.

Articles exported.	Quantities.		Value in Sterling.		Total.
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	
Confectionery, unenumerated lb.	3,260	525	£ 73	£ 45	£ 118
Copperware	..	..	..	50	50
Copra tons.	..	1,052	..	10,444	10,444
Cordage cwt.	706	118	1,002	325	1,327
" iron and steel ..	..	2	..	2	2
Cotton piece-goods—					
Calico	..	..	..	902	902
Shirtings	..	..	..	435	435
Waterproof material ..	..	..	..	18	18
Unenumerated	..	..	101	4,084	4,185
Cotton, raw lb.	..	18,173	..	348	348
" waste cwt.	..	3	..	4	4
" wick lb.	150	..	7	..	7
Cutlery	..	..	49	106	155
Doors No.	341	..	254	..	254
Drapery	..	..	98	1,943	2,041
" laces	..	..	..	36	36
Drugs, &c.	..	..	919	806	1,725
" Cream of tartar .. lb.	..	3,469	..	152	152
Chemicals	..	..	436	632	1,068
Sheep-dip	..	..	301	70	371
Dyes	..	..	..	29	29
Earthenware	..	..	260	502	762
Eggs.. .. doz.	5	..	6	..	6
Engine-packing .. cwt.	..	1	..	2	2
Essences, flavouring .. galls.	..	2	..	6	6
Essential oils .. lb.	..	120	..	10	10
Fancy goods	..	..	92	983	1,075
" curiosities	..	..	1,489	474	1,963
Feathers, ornamental .. lb.	185	..	484	..	484
Fireworks	..	..	..	2	2
Fish, dried cwt.	162	59	316	112	428
" potted and preserved lb.	194,893	45,516	5,809	1,215	7,024
" frozen cwt.	8,289	..	11,073	..	11,073
" ova	..	..	10	..	10
Fishing-tackle	..	..	..	15	15
Flour tons.	9,816	..	104,214	..	104,214
Foods, farinaceous, maizena, lb.	..	10,000	..	214	214
" unenumerated	..	..	..	166	166
Foods for animals n.o.e.	..	..	696	..	696
Fruits, bottled and preserved, doz.	324	177	101	48	149
" dried currants .. lb.	..	9,407	..	98	98
" raisins	..	9,555	..	196	196
" dried, unenumerated ..	1,060	14,893	14	230	244
" fresh	139,060	90,800	1,449	656	2,105
Fungus cwt.	6,384	..	10,240	..	10,240
Furniture and upholstery ..	..	..	473	970	1,443
Glass bottles	..	..	5	147	152

DETAILS OF ALL EXPORTS, 1897—continued.

Articles exported.	Quantities		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Glassware	..	..	161	238	399
Glue and size.. .. cwt.	227	1½	159	8	162
Glycerine	381	..	681	..	681
Gold oz.	251,645	27	980,204	98	980,302
Grain and pulse—					
Barley bush.	34,986	..	5,353	..	5,353
Beans and peas	68,967	..	15,128	..	15,128
Maize	18,697	..	2,054	..	2,054
Oats	1,600,458	..	167,229	..	167,229
Rye	3,096	..	489	..	489
Wheat	72,167	..	14,703	..	14,703
Unenumerated	120	..	30	..	30
Grease cwt.	..	9	..	12	12
Grindery	..	..	70	147	217
Gum, kauri tons	6,641½	..	398,010	..	398,010
Haberdashery	..	..	17	694	711
Sewing-cottons	..	..	..	46	46
Hair cwt.	389½	..	2,082	..	2,082
Hardware	..	..	788	3,300	4,088
Hats and caps doz.	1½	233	4	211	215
Hay and straw tons	752	..	1,374	..	1,374
Hides No.	10,746	..	10,021	..	10,021
Hollowware	..	..	..	29	29
Honey cwt.	376	..	703	..	703
Hops	2,703	11	13,565	64	13,629
Horns and hoofs tons	40	..	665	..	665
Hosiery	..	..	429	910	1,339
Indiarubber and guttapercha goods	..	..	..	539	539
Ink, printing lb.	..	2,940	..	400	400
Instruments, musical—					
Organs and harmoniums No.	..	2	..	70	70
Pianofortes	..	12	..	412	412
Unenumerated	..	..	..	1,004	1,004
Instruments, scientific	..	..	30	323	353
" surgical and dental	..	..	..	87	87
" surveying	..	..	8	85	93
Iron and steel—					
Bar, bolt, and rod cwt.	1½	16½	12	61	73
Galvanised manufactures	..	..	187	216	403
Hoop, galvanised tons	..	2	..	24	24
Sheet and plate cwt.	..	47	..	22	23
Sheet, galvanis'd corrugated, ...	..	2,702	..	2,284	2,284
Sheet, galvanised, plain	..	66	..	65	65
Tanks, 400 galls. No.	..	28	..	79	79
" 200	..	9	..	14	14
Wire fencing, barbed cwt.	..	93	..	67	67
Wire netting	..	..	..	14	14
Wire, unenumerated tons	..	18	..	65	65

DETAILS OF ALL EXPORTS, 1897—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
Iron and Steel— <i>continued.</i>			£	£	£
Unenumerated .. tons	89	..	134	..	134
Jams, jellies, and preserves lb.	18,044	10,591	348	199	547
Jewellery	..	..	22	608	625
Lamps and lanterns	..	..	16	184	200
Lard cwt.	201	..	433	..	433
Leather	19,431	46½	98,155	961	99,116
" manufactures	..	..	21	61	82
Lime bush.	998	..	58	..	58
Limejuice, unsweetened galls.	..	32,645	..	1,652	1,652
Linen piece-goods	..	..	..	50	50
Hessians	..	..	..	125	125
Linseed cwt.	4,815	3	2,449	30	2,479
Machinery—					
Agricultural	..	..	5,300	10,269	15,569
Dairying	..	..	11	524	535
Electric	..	..	..	659	659
Engines, steam .. No.	3	3	283	218	501
Flour-milling	..	..	10	150	160
Gas-making	..	..	..	13	13
Mining	..	..	71	174	245
Printing	..	..	..	4	4
Refrigerating	..	..	..	191	191
Sewing and knitting No.	8	139	36	516	552
Wood-working	..	..	50	75	125
Wool-pressing	..	..	300	44	344
Woollen-milling	..	..	..	82	82
Unenumerated	..	..	380	1,943	2,323
Machinery, materials for	..	..	..	13	13
Malt bush.	124,612	..	30,962	..	30,962
Manures, guano .. tons	..	2	..	6	6
Unenumerated	58½	88	234	305	539
Marble	..	..	..	47	47
Matches and vestas—					
Wax gross	..	44	..	9	9
Wooden	..	2,478	..	216	216
Mats and matting	..	..	471	1	472
Meal, oatmeal centals	86,293	..	19,022	..	19,022
Meats—					
Beef, frozen .. cwt.	50,044	..	52,690	..	52,690
" salted	5,741	..	6,041	..	6,041
Kidneys, frozen	7,047	..	6,103	..	6,103
Lamb, ... carcasses	1,038,316	..	506,674	..	506,674
" = cwt.	358,209	..	..	..	..
Mutton, ... carcasses	1,653,170	..	917,518	..	917,518
" = cwt.	900,066	..	..	..	..
" joints, frozen .. cwt.	33,307	..	35,404	..	35,404
Pork, frozen carcasses	120	..	140	..	140
" = cwt.	109	..	..	..	..

DETAILS OF ALL EXPORTS, 1897—continued.

Articles exported.	Quantities.		Value in Sterling.		Total.
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	
<i>Meats—continued.</i>			£	£	£
Pork, salted .. cwt.	52	..	110	..	110
Other kinds, frozen .. "	1,016½	..	1,359	..	1,359
Potted and preserved .. "	45,055½	89½	78,235	234	78,469
Rabbits and hares frozen in skin .. No.	2,229,056	..	46,398	..	46,398
Unenumerated .. =cwt.	58,123	..	281	..	281
Medicines, patent .. cwt.	186	..	580	847	1,427
Metal manufactures .. "	..	..	164	784	948
Metal, old .. cwt.	49	4,158½	60	5,065	9,125
Milk, preserved .. lb.	47,484	15,440	913	350	1,263
Millinery .. "	..	..	..	130	130
<i>Minerals—</i>					
Antimony ore .. tons	10½	..	157	..	157
Copper .. cwt.	1	..	2	..	2
Sulphur .. tons	1,481	..	4,703	..	4,703
Manganese .. "	180	..	541	..	541
Silver ore .. cwt.	5½	..	28	..	28
Quartz .. tons	35½	..	326	..	326
Platinum .. oz.	2½	..	8	..	8
Unenumerated .. tons	44½	..	832	..	832
Nails .. cwt.	..	399	..	334	334
Naphtha .. galls.	..	213	..	31	31
<i>Nuts—</i>					
Almonds in shell .. lb.	..	359	..	11	11
" " shelled .. "	..	85	..	1	1
Oars .. No.	12	130	4	57	61
<i>Oil—</i>					
Castor, bulk .. galls.	..	663	..	74	74
" bottled .. "	..	77	..	12	12
Cod-liver .. "	..	430	..	32	32
Colza .. "	..	2,115	..	265	265
Cocanut .. "	2,622	..	271	..	271
Fish, penguin, and seal .. "	10	2,669	1	240	241
Kerosene .. "	..	44,904	..	2,139	2,139
Linseed .. "	..	2,758	..	412	412
Olive, bulk .. "	..	1,539	..	233	233
Petroleum .. "	4	..	1	..	1
Unenumerated .. "	6,372	6,304	564	498	1,062
Oilmen's stores .. "	..	..	423	758	1,181
Oil and other floorcloth .. "	..	..	..	7	7
Onions .. cwt.	38,196	152	11,224	110	11,334
Opium .. lb.	..	14	..	5	5
Oysters .. doz.	235,654	..	1,644	..	1,644
<i>Paints—</i>					
Ground in oil .. cwt.	..	195½	..	250	250
Mixed .. "	3	107	13	365	378
Unenumerated .. "	102	35	273	63	336

DETAILS OF ALL EXPORTS, 1897—*continued.*

Articles exported.	Quantities.		Value in Sterling.		Total.
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	
Paper-bags cwt.	507	..	£ 443	£ ..	£ 443
Paper—					
Printing "	..	43½	..	79	79
Wrapping "	1,103	169	908	218	1,126
Writing "	..	38	..	88	88
Unenumerated "	4	48	5	60	65
Pearl barley "	2	..	1	..	1
Peel, candied and dried .. lb.	..	36,872	..	193	193
Perfumery—					
Perfumed spirits .. galls.	..	24	..	25	25
Unenumerated "	..	..	..	31	31
Phormium tons	2,769	..	30,674	..	30,674
Tow "	159½	..	437	..	437
Photographic goods "	..	..	98	247	345
Pickles galls.	3	812	2	162	164
Pictures "	..	..	989	1,664	2,653
Picture-frames "	..	..	6	56	62
Pipes, tobacco, wooden .. doz.	..	5	..	36	36
Pitch cwt.	531	..	101	..	101
Plants "	..	..	426	231	657
Platedware "	..	..	45	2,760	2,805
Pollard and sharps tons	2,349½	..	8,348	..	8,348
Portmanteaux "	..	..	1	..	1
Potatoes tons	7,692	..	20,992	..	20,902
Printing materials "	..	..	2	43	45
Provisions "	..	..	533	56	589
Pumps No.	8	6	15	146	161
Rags cwt.	649	81	467	56	523
Rice "	..	1,601	..	1,152	1,152
Rugs "	..	..	2,851	10	2,861
Saddlery and harness "	..	..	1,018	217	1,235
Salt tons	..	3½	..	12	12
Sashes, window pairs	697	..	431	..	431
Sauces galls.	125	213	96	94	130
Sausage-skins cwt.	10,100	29	48,328	117	48,445
Seeds, grass and clover "	25,735	177	46,947	241	47,188
unenumerated "	..	..	568	411	979
Shells, pearl cwt.	..	287	..	1,727	1,727
unenumerated "	1	..	6	..	6
Ship-chandlery "	..	..	1,027	816	1,843
Silk piece-goods "	..	..	..	308	308
Silver oz.	183,892	..	20,872	..	20,872
Skins—					
Calf and other No.	6,995	..	359	..	359
Rabbit No.	8,099,334	..	..	..	..
= lb. 1,128,249	..	..	47,472	..	47,472
No. 262,811	..	..	..	..	..
= lb. 1,762,275	..	..	35,974	..	35,974

DETAILS OF ALL EXPORTS.

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DETAILS OF ALL EXPORTS, 1897—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
<i>Skins—continued.</i>			£	£	£
Sheep, without wool	No. 3,425,240	..	152,147	..	152,147
	=lb. 9,319,149	..			
Soap, common	.. cwt. 2,845	156	2,088	103	2,141
" powder..	.. ..	..	2	..	2
" unenumerated	.. lb. 2,957	..	104	..	104
<i>Specie—</i>					
Gold	.. ..	..	..	273,242	273,242
Silver	.. ..	..	..	2,529	2,529
Specimens of natural science	.. ..	..	973	123	1,096
Spices, unground	.. lb. ..	4,615	..	2,330	2,330
<i>Spirits—</i>					
Bitters	.. galls. ..	7	..	8	8
Brandy	.. ..	604	..	293	293
Geneva and gin	.. ..	1,420	..	341	341
Perfumed spirits	.. ..	40	..	109	109
Rum	.. ..	1,165	..	238	238
Whiskey	.. ..	3,985	..	1,588	1,588
Starch	.. lb. ..	2,406	..	42	42
Stationery	.. ..	..	1,249	1,410	2,659
Stearine	.. cwt. 251	..	250	..	250
<i>Stone—</i>					
Building	.. tons. 29	..	32	..	32
Pumice	.. ..	1,112	3,473	..	3,473
Unwrought..	.. ..	65	175	..	175
Wrought	.. ..	..	62	..	62
<i>Sugar—</i>					
Refined	.. lb. 594,516	161,889	5,067	1,240	6,307
Raw	.. ..	268,800	..	1,200	1,200
Molasses and treacle	.. ..	96	6	1	7
Tallow	.. tons 14,625	..	243,313	..	243,313
" mutton, stock, and oleo-					
margarine	.. tons 776	..	14,897	..	14,897
Oil	.. ..	109	1,754	..	1,754
Tarpaulins and tents	.. ..	..	68	..	68
Tanning materials, bark	.. tons 9	..	37	..	37
Tar	.. ..	..	1	..	1
Tea	.. lb. ..	83,251	..	3,679	3,679
Textile piece-goods	.. ..	..	..	16	16
Articles made up from	.. ..	..	31	64	95
<i>Timber—</i>					
Logs, hewn	.. sup. ft. 1,439,022	..	4,116	..	4,116
Palings	.. No. 10,000	..	104	..	104
Sawn, undressed	.. sup. ft. 35,743,678	873	137,489	8	137,497
" dressed	.. ..	236	12,564	2	12,566
Unenumerated	.. ..	..	1,409	15	1,424
Tin-foil	.. lb. ..	244	..	6	6
Tin, sheet	.. cwt. 111	..	100	..	100
Tinware	.. ..	..	136	48	184

DETAILS OF ALL EXPORTS, 1897—*continued.*

Articles exported.	Quantities.		Value in Sterling.		
	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Produce and Manufactures of the Colony.	British, Foreign, and other Colonial Produce and Manufactures.	Total.
			£	£	£
Tobacco, manufactured lb. 150	36,892	19	2,311	2,330	
" Cigars	3,545	..	1,107	1,107	
" Cigarettes	4,970	..	1,808	1,808	
Tobacco-pipes	..	..	1	1	
Tools, unenumerated	..	6	512	518	
Tramway plant	..	..	50	50	
Turpentine galls. ..	..	8	1	1	
Twine	..	100	21	121	
" Reaper and binder cwt. 2,210	71	2,748	106	2,854	
Umbrellas and parasols	..	..	87	87	
Varnish and gold-size galls. 16	528	7	190	197	
Vegetables	..	520	42	562	
Watches No. ..	2,885	..	2,736	2,736	
Whalebone cwt. 38	..	84	..	84	
Wine, Australian galls. ..	286	..	119	119	
Wire, sparkling	287	..	607	607	
" other kinds	25	1,127	8	530	538
Woodenware	..	898	2,065	2,963	
Wool—					
Greasy lb. 107,134,730	..	3,290,098	..	3,290,098	
Scoured " 15,193,016	..	674,041	..	674,041	
Shed " 11,929,848	..	419,982	..	419,982	
Washed " 1,577,523	..	59,023	..	59,023	
Woollen piece-goods	..	8,044	881	8,925	
Woollen blankets pairs 1,263	66	1,475	44	1,519	
Woolpacks doz. ..	15	..	18	18	
Zinc spelter cwt. ..	1,278	..	695	695	
Goods, miscellaneous—					
Manufactured	..	46	1,354	1,400	
Unmanufactured	..	260	167	427	
Parcels Post	..	..	8,153	8,153	

SECTION XIV.—TRANSPORT AND COMMUNICATION.

SHIPPING.

THE shipping entered inwards during 1897 comprised 600 vessels, of 686,899 tonnage; while entered outwards were 587 vessels of 675,333 tons. Comparison with the figures for the previous year shows in the entries an increase of 11 vessels and 72,802 tons, and in the clearances a decrease of 5 vessels, but an increase of 47,674 tons. Of the vessels inwards, 133, of 276,020 tons, were British; 395, of 340,793 tons, colonial; and 72, of 70,086 tons, foreign. Those outwards numbered 140, of 280,229 tons, British; 378, of 327,068 tons, colonial; and 69, of 68,036 tons, foreign. The number of vessels was the same as in 1896, but there was an increase of 40,617 in the tonnage of colonial vessels entered, and an increase in the British shipping entered of 7 vessels and 26,419 tons. Of the entries, 275, of 140,303 tons, were sailing-vessels, and 325, of 546,596 tons, steamers. Of the clearances, 267, of 136,254 tons, were sailing-vessels, and 320, of 539,079 tons, steamers. The shipping inwards and outwards for ten years is given in the table following:—

VESSELS ENTERED, 1888-97.

Year.	Total Number.			British.			Colonial.			Foreign.		
	Vessels.	Tons.	Crews.	Vessels.	Tons.	Crews.	Vessels.	Tons.	Crews.	Vessels.	Tons.	Crews.
1888 ..	683	526,435	20,783	130	182,020	5,352	497	276,624	12,401	56	67,791	3,030
1889 ..	781	602,634	22,649	158	206,825	5,348	547	319,131	14,162	76	76,678	3,139
1890 ..	744	662,769	23,475	190	280,105	6,786	477	298,497	13,598	77	81,167	3,091
1891 ..	737	618,515	21,889	169	265,164	6,817	507	291,800	12,951	61	61,551	2,121
1892 ..	686	675,223	22,038	203	335,577	8,274	411	265,769	11,303	72	73,877	2,461
1893 ..	617	615,604	20,935	166	290,323	7,289	405	272,250	11,745	46	53,031	1,901
1894 ..	609	631,100	21,834	141	271,994	6,456	423	306,547	13,279	45	52,559	2,099
1895 ..	611	672,951	22,074	146	299,667	6,837	420	319,313	13,209	45	53,971	2,028
1896 ..	589	614,097	19,857	126	249,601	5,495	395	300,176	12,210	68	64,320	2,152
1897 ..	600	686,899	21,542	133	276,020	6,086	395	340,793	13,138	72	70,086	2,318

VESSELS CLEARED, 1888-97.

1888 ..	701	531,478	20,961	109	157,871	4,509	533	305,264	13,396	59	68,313	3,056
1889 ..	762	593,252	22,647	160	211,872	5,714	527	307,083	13,762	75	74,237	3,171
1890 ..	745	649,705	23,260	195	284,635	7,168	477	283,735	13,076	73	81,335	3,016
1891 ..	744	625,807	22,080	168	271,533	7,002	515	291,938	12,947	61	62,336	2,131
1892 ..	689	656,100	21,679	189	315,633	7,934	424	263,504	11,241	76	76,963	2,504
1893 ..	635	642,466	21,448	186	317,130	7,839	400	270,308	11,665	49	55,028	1,944
1894 ..	614	631,250	21,934	140	270,464	6,437	432	310,050	13,527	42	50,736	1,970
1895 ..	597	648,946	21,619	134	281,840	6,528	420	315,171	13,064	43	51,935	2,023
1896 ..	592	627,659	20,217	123	259,064	5,637	402	305,926	12,448	67	62,669	2,132
1897 ..	587	675,333	21,409	140	280,229	6,240	378	327,068	12,881	69	68,036	2,288

NOTE.—Coasting-vessels are not included in the above table.

The above figures apply to the foreign trade only ; but in a new country such as New Zealand, as yet deficient in roads, but having an extensive seaboard and a number of good harbours, the coastal trade must be relatively very large, as is evidenced by the figures next given :—

SHIPPING ENTERED COASTWISE, 1897.

			Number.	Tons.
Sailing-vessels	..	..	4,523	294,296
Steamers	..	..	15,746	5,168,977

SHIPPING CLEARED COASTWISE, 1897.

			Number.	Tons.
Sailing-vessels	..	..	4,472	296,094
Steamers	..	..	15,606	5,150,055

The total number of vessels entered coastwise was thus 20,268, of 5,463,273 tons, being an increase of 1,052 vessels and 480,856 tons on the figures for 1896. The clearances coastwise were 20,078 vessels, of 5,446,149 tons, an increase of 1,050 vessels and 477,523 tons on the number for the previous year.

REGISTERED VESSELS.

The number and tonnage of the registered vessels belonging to the several ports on the 31st December, 1897 (distinguishing sailing-vessels and steamers), was as under :—

REGISTERED VESSELS, 31ST DECEMBER, 1897.

Ports.	Sailing-vessels.			Steam-vessels.		
	Vessels.	Gross Tonnage.	Net Tonnage.	Vessels.	Gross Tonnage.	Net Tonnage.
Auckland	176	14,031	13,611	71	10,331	6,389
Napier	7	778	755	10	804	465
Wellington	24	4,531	4,362	23	3,925	2,252
Nelson	11	281	231	10	788	500
Lyttelton	31	5,632	5,504	8	1,260	549
Dunedin	49	13,116	12,951	63	61,568	37,461
Invercargill	20	2,364	2,279	3	304	190
Totals	318	40,733	39,743	188	78,980	47,806

RAILWAYS.

The history and progress of railways in New Zealand was specially described in the Year-book of 1894, as was also the line partly built by the New Zealand Midland Railway Company. An account of the line belonging to the Wellington and Manawatu Railway Company appears in the Year-book for 1895.

The length of Government railways open for traffic on the 31st March, 1898, was 2,055 miles, the total cost thereof having been £15,993,903 (besides £878,142 spent on unopened lines), and the average cost per mile £7,783. The cash revenue for the year 1897-98 amounted to £1,376,008; and the total expenditure to £857,191. The net cash revenue—£518,817—was equal to a rate of £3 4s. 10d. per cent. on the capital cost; the percentage of expenditure to revenue was 62·30. The earnings on some of the lines ranged as high as £9 3s. 10d. and even £12 2s. 2d., per cent.

The following statement shows the number of miles of Government railways open, the number of train-miles travelled and of passengers carried, and the tonnage of goods traffic, for the past nine years:—

Year.	Length open.	Train-mileage.	Passengers.	Season Tickets issued.	Goods and Live-stock.*
					Tons.
1889-90 ..	1,813	2,868,203	3,376,459	12,311	2,112,734
1890-91 ..	1,842	2,894,776	3,433,629	13,881	2,134,023
1891-92 ..	1,869	3,010,489	3,555,764	16,341	2,122,987
1892-93 ..	1,886	3,002,174	3,759,044	16,504	2,258,235
1893-94 ..	1,948	3,113,231	3,972,701	17,226	2,128,709
1894-95 ..	1,993	3,221,620	3,905,578	23,623	2,123,343
1895-96 ..	2,014	3,307,226	4,162,426	36,233	2,175,943
1896-97 ..	2,018	3,409,218	4,439,387	43,069	2,461,127
1897-98 ..	2,055	3,666,483	4,672,264	48,660	2,628,746

The traffic in local products for the past nine years was:—

Year.	Wool.	Timber.	Grain.	Minerals.	Horses and Cattle.	Sheep and Pigs.
	Tons.	Tons.	Tons.	Tons.	Number.	Number.
1889-90 ..	91,214	172,814	498,199	707,117	41,058	1,036,875
1890-91 ..	87,701	153,078	528,683	828,079	44,909	1,313,155
1891-92 ..	85,888	170,521	442,277	873,899	47,618	1,117,253
1892-93 ..	96,842	169,910	523,637	884,031	46,590	1,359,860
1893-94 ..	101,340	183,192	411,191	864,538	51,573	1,394,456
1894-95 ..	103,328	198,578	388,556	857,917	52,075	1,563,213
1895-96 ..	99,363	213,132	374,699	878,659	50,766	1,893,053
1896-97 ..	98,958	257,825	423,888	1,032,252	47,256	2,016,437
1897-98 ..	103,055	313,073	427,448	1,047,868	54,871	2,399,379

* The equivalent tonnage for live-stock has been given.

The particulars of the revenue and expenditure for the past nine years are given herewith :—

Year.	Passenger Fares.	Parcels Luggage and Mails.	Goods and Live-stock.	Rents and Miscellaneous.	Total.	Expenditure.	Net Revenue.	Percentages of Expenditure to Revenue.	Percentages of Revenue to Capital Cost.
	£	£	£	£	£	£	£		£ s. d.
1889-90	369,348	37,097	655,007	34,117	1,095,569	682,787	412,782	62·32	2 19 5
1890-91	353,593	38,997	690,779	38,332	1,121,701	700,703	420,998	62·47	2 18 11
1891-92	364,617	41,795	671,469	37,550	1,115,431	706,517	408,914	63·34	2 15 9
1892-93	390,619	44,801	707,785	38,316	1,181,521	732,141	449,380	61·97	3 1 0
1893-94	402,019	45,206	686,469	39,098	1,172,792	735,358	437,434	62·70	2 17 9
1894-95	385,149	43,270	683,726	38,706	1,150,851	732,160	418,691	63·62	2 14 6
1895-96	389,234	54,736	698,115	40,956	1,183,041	751,368	431,673	63·51	2 16 0
1896-97	410,160	58,084	774,163	43,751	1,286,158	789,054	497,104	61·35	3 3 10
1897-98	433,430	60,872	837,589	44,117	1,376,008	857,191	518,817	62·30	3 4 10

NOTE.—For the years 1895-96, 1896-97 and 1897-98 the railways have been credited with the value of services performed for other Government departments, and debited with the value of work done for the railways by other departments.

The average revenue per mile of railway was £673 9s. 1d., and the average expenditure £419 10s. 7d.; equal to 7s. 6d. and 4s. 8d. per train-mile respectively.

The total number of miles travelled by trains was 3,666,483.

In addition to the above railways, there were 167 miles of private lines open for traffic on the 31st March, 1898—namely, the Wellington-Manawatu Railway, 84 miles; the Kaitangata Railway Company's line, 4 miles; and the Midland Railway, 79 miles.

The cost of the construction of the Wellington-Manawatu Railway was £769,165, being at the rate of £9,157 per mile. The term "cost of construction," as applied to railways, includes value of equipment, rolling-stock, &c., not merely the road-line and buildings. The revenue for the twelve months ended the 28th February, 1898, amounted to £92,793, and the working-expenses to £44,094, equivalent to 47·52 per cent. of the revenue.

The traffic return from the opened part of the Midland line for the year ended 31st March, 1898, was £19,382, and the expenditure £14,188, equivalent to 73·20 per cent. of the revenue. The total expenditure on the construction of this line has been about £1,300,000.

Australasian Railways.

The following statement gives the number of miles of Government railways open for traffic and in course of construction in the Australian Colonies in 1896 or 1897.

Colony.	Railways (State).					
	No. of Miles of Line open on Dec. 31.	No. of Miles of Line in course of Construction on Dec. 31.	Cost of Construction of Open Lines.	Gross Receipts.	Working Expenses.	Percentage of Net Revenue to Cost.
			£	£	£	%
Queensland.. ..	2,430	158	17,077,733	1,094,558	669,696	2.49
New South Wales ..	2,639½	51½	37,369,205	3,014,742	1,601,218	3.79
Victoria (30th June, 1896)	3,122½	6½	38,102,855	2,401,392	1,546,475	2.25
South Australia ..	1,722	..	12,573,893	1,012,457	604,189	3.25
Western Australia (30th June, 1897)	970	276	4,359,241	915,483	577,655	9.04
Tasmania	419½	17½	3,524,051	162,932	122,171	1.15
New Zealand (31st March, 1897)	2,018	124	15,577,392	1,286,158	789,054	3.19

In addition to the Government lines open for traffic in 1896-97, New South Wales had 84 miles of private railway; South Australia, 20 miles; Western Australia, 391 miles; Tasmania, 55½ miles; and New Zealand, 167 miles.

Co-operative Public Works.

Remarks on the co-operative system of constructing public works were given in a special article in the Year-book of 1894. The numbers of workmen employed in this manner under Government departments during the financial year 1897-98 were:—

		Public Works Department.	Lands and Survey Department.	State Farm, Levin.	Total.
April, 1897	..	741	1,686	15	2,442
May, "	..	808	1,565	*44	2,417
June, "	..	878	1,623	17	2,518
July, "	..	933	1,540	18	2,491
August, "	..	931	1,633	21	2,585
September, "	..	1,087	1,685	21	2,793
October, "	..	1,055	1,681	19	2,755
November, "	..	982	1,496	21	2,499
December, "	..	973	1,568	14	2,555
January, 1898	..	871	1,592	14	2,477
February, "	..	704	1,272	11	1,987
March, "	..	719	1,285	13	2,017

* Including Taihape Labour Settlement, 29.

The average number of men employed in each year was as follows:—

Year.		Lands and Survey Department.	Public Works Department.	Total.
1891-92	.. ..	261	527	788
1892-93	.. ..	280	842	1,122
1893-94	.. ..	933	1,015	1,948
1894-95	.. ..	1,103	962	2,065
1895-96	.. ..	1,572	764	2,336
1896-97	.. ..	1,459	854	2,313
1897-98	.. ..	1,552	890	2,442
Gross totals		7,160	5,854	13,014
Average	..	1,023	836	1,859

POSTAL AND ELECTRIC TELEGRAPH.

There were 1,524 post-offices in New Zealand at the end of 1897.

The number of letters, letter-cards, post-cards, books, and pattern-packets, newspapers, and parcels dealt with during the year, compared with the number handled in 1896, was as under:—

		Total Number dealt with. 1896.		Total Number dealt with. 1897.		Increase.
Letters	.. ..	29,787,763	..	32,272,923	..	2,485,160
Letter-cards	.. ..	654,290	..	757,172	..	102,882
Post-cards	.. ..	1,231,835	..	1,341,821	..	109,986
Books and pattern-packets	.. ..	12,647,271	..	14,627,832	..	1,980,561
Newspapers	.. ..	13,216,521	..	14,261,345	..	1,044,824
Parcels	.. ..	186,611	..	197,554	..	10,943

The average number of letters, &c., posted per head of the population in each of the past five years was,—

		1893.	1894.	1895.	1896.	1897.
Letters	.. ..	38.93	38.02	39.87*	40.77*	42.98*
Post-cards	.. ..	2.10	1.84	1.73	1.65	1.84
Books and parcels	.. ..	10.13	10.39	12.27	17.19	17.36
Newspapers	.. ..	13.39	12.94	12.95	13.47	14.10

The facilities afforded for the transmission of parcels through the Post Office to places within and without the colony have proved of much convenience to the public. The regulations admit of parcels up to 11lb. in weight being sent to almost all the important countries of the world.

The number and weight of parcels dealt with in 1890, 1894, 1895, 1896, and 1897 are given. The word "parcels" in the preceding table includes the parcels herein mentioned:—

1890.		1894.		1895.		1896.		1897.	
No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.
	Lb.		Lb.		Lb.		Lb.		Lb.
136,327	390,521	174,264	540,315	176,206	582,193	186,611	654,333	197,554	676,051

* Including letter-cards.

Owing to the greatly reduced book-post rates a large number of the lighter packets of the classes formerly sent by parcel-post continue to be diverted to the packet- and sample-post. This fact accounts for the small increase in the number of parcels.

The following table shows the number of parcels exchanged with the United Kingdom, the Australian Colonies, &c., in 1896 and 1897:—

Country.	Number of Parcels.			
	Received.		Despatched.	
	1897.	1896.	1897.	1896.
United Kingdom and foreign offices <i>vid</i> London	15,742	13,730	4,197	3,446
Victoria	3,174	2,579	1,526	1,457
New South Wales	3,521	2,853	1,681	1,568
Queensland	374	187	256	225
South Australia	239	206	179	149
Tasmania	243	113	224	280
Western Australia	185	122	270	198
Samoa	4	5	117	84
Rarotonga	11	10	48	54
Ceylon	150	44	126	33
Straits Settlements	1	22	..	..
Hawaiian Islands	54	38	39	28
Uruguay	..	..	7	..
Totals	23,698	19,909	8,670	7,522

The declared value of the parcels received from places outside the colony was £41,820, on which the Customs duty amounted to £8,632 6s. 6d.

Money Orders and Postal Notes.

The number of offices open for the transaction of money-order business at the end of 1897 was 396.

During 1897, 293,659 money-orders, for a total sum of £970,830 14s. 11d., were issued at the various post-offices in the colony. The money-orders from places beyond New Zealand and payable in the colony numbered 21,492, for the amount of £75,343 12s. 2d.

The number of offices open for the sale of postal notes at the end of 1897 was 452. 409,866 postal notes were sold, value £137,113 15s. 2d. (including £2,735 5s. 8d. commission).

The notes paid numbered 407,610, value £128,655 18s. 6d.

Mail-services.

The cost of the various mail-services between England and New Zealand was, in 1897, as follows:—

SAN FRANCISCO SERVICE.

Payments—		£	s.	d.
Subsidies, &c.	..	25,687	5	10
Interprovincial and other charges ..	..	4,009	19	2
		£29,697	5	0

Receipts—		£	s.	d.
Postages received from England and the Australian Colonies	..	11,107	16	5
Postages collected in the colony ..	..	11,060	12	5
Penalty for late arrival	..	424	0	0
		£22,592	8	10

Loss to the colony	..	£7,104	16	2
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PENINSULAR AND ORIENTAL AND ORIENT LINES SERVICES.

Payments—		£	s.	d.
To P. and O. and Orient Lines	..	3,538	16	
Transit across Australia	..	305	19	9
European Continent ..	..	546	2	6
Intercolonial services	..	1,775	0	2
		£6,165	19	1

Receipts—		£	s.	d.
Postages collected from England and from foreign offices	..	1,014	12	3
Postages collected in the colony	..	3,097	11	3
		£4,112	3	6

Loss to the colony	..	£2,053	15	7
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The total amount of postages collected and contributions received for all these services in 1897 was £26,704 12s. 4d.

The average number of days in 1897 within which the mails were delivered between London and each of the under-mentioned ports in New Zealand was:—

London to—	San Francisco Service.	P. and O. Line.	Orient Line.
Auckland	.. 32·62	40·46	42·41
Wellington	.. 34·23	41·27	41·56
Dunedin	.. 35·69	42·44	41·90
Bluff	.. 36·44	41·69	41·15

Electric Telegraph.

There were 6,484 miles of telegraph-line open at the end of March, 1898, carrying 18,024 miles of wire. 2,696,233 telegrams were transmitted during the year; of these, the private and Press messages numbered 2,469,415, which, together with telephone exchange and other telegraph receipts, yielded a revenue of £136,220 15s. 6½d.

There were eighteen telephone exchanges and eleven sub-exchanges on the 31st March, 1898. The number of connections increased from 5,747 in March, 1897, to 5,787 in March, 1898. The subscriptions to these exchanges during the financial year amounted to £36,422 6s. 8d.

The capital expended on the equipment, &c., of the several telephone exchanges up to the 31st March, 1898, was £142,218 11s. 8d.

SECTION XV.—MINING.

THE natural mineral resources of New Zealand are very great, and have exercised in the past a most important influence on the development and progress of the colony. Gold to the value of £53,372,634 was obtained prior to the 31st December, 1897; the value of the produce for the year 1897 having been £980,204. In the earliest years the gold was obtained from alluvial diggings, but at the present time much is taken from gold-bearing quartz, which is distributed widely through several parts of the colony, and thus there is a much better prospect of the permanency of this industry than alluvial diggings could give. The greater portion of the gold obtained is, however, still got from alluvial workings.

The yield of silver to the end of 1897 amounted to £202,724 in value, the quantity mined in 1897 having been 183,892 oz., valued at £20,872.

Of other minerals, the value of the product to the same date amounts to £15,010,261, of which kauri-gum yielded £8,512,852, and coal, with coke, £6,252,271.

The quantities and values of precious metals and minerals obtained during the year 1897, and the total value of all mining produce since 1853, are:—

			1897.	Total Value since 1853.
			Oz.	£
Gold	..	..	251,645	980,204
Silver	..	..	183,892	20,872
			435,537	1,001,076
			53,575,858	
			Tons.	
Copper-ore	..	..	..	2
Chrome-ore	..	..	..	..
Antimony-ore	..	..	10	157
Manganese-ore	..	..	180	541
Hæmatite-ore	..	..	..	..
Mixed minerals	..	..	..	5,892
Coal	..	..	840,713	420,357
Coke (exported)	..	..	..	..
Kauri-gum	..	..	6,641	398,010
			£1,826,035	£68,585,619

Of the gold entered for exportation during the year ended the 31st March, 1898—viz., 251,492 oz., representing a value of £976,198—over 40 per cent. came out of quartz-mines; but, if the total yield of gold obtained in the colony be taken, the value of which to 31st March, 1898, is £53,644,444, about 20 per cent. came from quartz-mines, and 80 per cent., from alluvial workings.

GOLD.

The history of the finding of gold in this colony was briefly sketched in the Year-books for 1893 and 1894, and need not, therefore, be repeated here, but a word may be said on recent developments in mining. Great changes have taken place since the early days, when a man wanted but a pick and shovel, tin dish and cradle, to enable him to earn a livelihood on the diggings. The rich shallow soil has been to all appearances worked out, the ground is getting deeper, the inroads of water more troublesome, and greatly-improved appliances are needed in order to wash away the masses of drift that overlie the gold-bearing layers on the bottom.

The difficulty for many years experienced in working the beds of the larger rivers has been at last overcome by the use of dredging machinery. On the Clutha River, where many dredges are at work, very few fail to pay interest on the capital invested in them. Dredging has not only been adopted for working river-beds, but has also been used to great advantage on river flats, which are known to contain large bodies of water, and cannot be profitably worked by any other means. So successful, indeed, has this method proved, that it seems likely to develop into a very considerable branch of the mining industry.

So numerous are rapid streams and rivers in New Zealand that water might easily be utilised to supply motive-power for mining machinery. It has been used at Skipper's for years to generate electricity by means of dynamos, the current being transmitted a distance of several miles over a high range for the purpose of driving a crushing battery. Great improvements have been made in the appliances since the method was first adopted, and at present some 67 per cent. of the power required to generate electricity is obtained in this way.

Skipper's was the first place where electricity was used to drive a crushing battery. The same force is employed to work a dredge on the Shotover River. Electricity has been adopted with equal success at the Brunner coal-mines, near Greymouth, for working the haulage and pumping machinery. It is also used for mining purposes at the Westport Coal Company's Denniston mines.

The total number of gold-miners employed in 1897-98 was 14,198, as against 14,949 for the previous year. In some places, more especially in Otago, Nelson, and the West Coast, many of the miners do not depend entirely on mining, but employ a part of their time in farming and other pursuits.

The total quantity of gold entered for export during the years ending 31st March, 1897, and 31st March, 1898, for the several districts, and the total quantity and value of the gold exported from the colony from the 1st January, 1857, to the 31st March, 1898, are shown hereunder, but this does not necessarily include the whole of the gold produced, as no doubt much has been taken out of the colony from time to time by people who have evaded the duty, and a good deal has been used for making jewellery and ornaments:—

TABLE SHOWING THE QUANTITY AND VALUE OF GOLD ENTERED FOR EXPORTATION FROM NEW ZEALAND FOR THE YEARS ENDING THE 31ST MARCH, 1897 AND 1898, AND THE TOTAL QUANTITY AND VALUE FROM JANUARY, 1857, TO 31ST MARCH, 1898.

District.	Year ending 31st March, 1897.		Year ending 31st March, 1898.		Increase or Decrease for Year ending 31st March, 1898.	Total Quantity and Value from January, 1857, to 31st March, 1898.		
	Quan- tity.	Value.	Quan- tity.	Value.				
Auckland ..	Oz. 93,876	£ 358,231	Oz. 108,490	£ 401,602	+ 14,614*	Oz. 2,167,375	£ 8,170,266	
Wellington..	.. ..	.. ..	.. ..	.. ..	.. ..	188	706	
Marlborough	789	3,070	619	2,400	- 170	85,610	333,432	
Nelson ..	2,534	9,544	758	2,853	- 1,776	253,720	1,002,006	
West Coast..	71,548	286,261	66,121	264,481	- 5,427	5,744,470	22,831,168	
Canterbury..	.. ..	.. ..	.. ..	.. ..	.. ..	48	192	
Otago ..	88,166	358,636	75,504	304,862	- 12,662	5,383,609	21,306,674	
Totals ..	256,918	1,015,742	251,492	976,198	- 5,421†	13,635,020	53,644,444	

* Increase.

† Decrease.

It will be seen from the above table that there was last year a decrease in the yield of gold of 5,421 oz., or 2·11 per cent. on the figures for the preceding twelve months. The falling-off was general in the Middle Island, where each gold-mining district showed a decrease; but the Auckland fields increased their output by 14,614 oz.

Of the total quantity of gold entered for exportation last year Auckland contributed 43·14 per cent.; Marlborough, 0·25 per cent.; Nelson, 0·30 per cent.; West Coast, 26·29 per cent.; and Otago, 30·02 per cent.

Production of Australasian Goldfields.

The gold yield of the Australasian Colonies for 1896 and 1897 is given in the *Australasian Insurance and Banking Record* for March, 1898, as under:—

	1896. Oz.	1897. Oz.
Victoria	805,087	812,765
Queensland	640,385	796,885
New South Wales	296,072	292,217
Western Australia	281,265	675,082
New Zealand	263,722	251,645
Tasmania	62,591	60,735
South Australia	29,004	10,322
	<u>2,878,126</u>	<u>2,899,651</u>

The increase is 521,525 oz. The mint value of Australasian gold averages £3 16s. per ounce, and a comparison of value is therefore as follows: 1896, £9,036,879; 1897, £11,018,674: increase, 1897, £1,981,795.

Production of the World's Goldfields.

The following extracts from the *Statist* of the 25th September, 1897, show approximately the gold production of the world, and bring forcibly under notice the value of the Australasian Colonies as gold-producing countries:—

For 1896 the production by fields was as under:—

					£
United States	..	..	..	..	10,800,000
Australasia	..	..	..	..	8,988,000
Transvaal	..	..	..	..	8,604,000
India	..	..	..	..	1,245,000
Russia and other countries	..	..	..	..	15,363,000
Total	..	..	..	..	£45,000,000

ESTIMATED WORLD'S PRODUCTION, 1888-1896.

Year.					£
1888	..	..	..	..	21,985,000
1889	..	..	..	..	23,835,000
1890	..	..	..	..	24,260,000
1891	..	..	..	..	26,700,000
1892	..	..	..	..	29,900,000
1893	..	..	..	..	32,600,000
1894	..	..	..	..	36,765,000
1895	..	..	..	..	41,000,000
1896	..	..	..	..	45,000,000
Total	..	..	..	..	£282,045,000

For Australasia, 1850 to 1896, the official grand aggregates of all the years are as follows:

					£
Victoria	..	..	..	..	243,841,000
New South Wales	..	..	..	..	43,400,000
New Zealand	..	..	..	..	52,393,000
Queensland	..	..	..	..	39,189,000
Tasmania	..	..	..	..	4,417,000
South Australia	..	..	..	..	1,983,000
West Australia	..	..	..	..	4,100,000
Total, 1850 to 1896, Australasia					£389,323,000

The total world production of gold since 1850 has been, approximately, 300,000,000 oz., worth, in round figures, £1,163,000,000.

The chief producers of gold over the whole period from 1850 to 1896 have been as undermentioned:—

					£
United States	..	..	..	..	417,980,000
Australasia	..	..	..	..	389,323,000
Transvaal	..	..	..	..	42,331,000
Indian mines	..	..	..	..	5,911,000
All other countries	..	..	..	..	307,455,000
Total, 1850 to 1896, the World					£1,163,000,000

The Cyanide Process.

In the Otago, Reefton, and Nelson districts the gold in the reefs generally occurs in a fairly free-milling state, presenting little difficulty in its recovery. In the Hauraki goldfields, however, only a small proportion of the gold is free-milling, the remainder existing in what is known as a refractory state—that is, the gold occurs either in so finely divided a form that the ordinary methods of amalgamation fail to recover a payable percentage, or it is associated with, or entangled in, base metallic minerals which necessitate the adoption of scientific, and often costly, methods of treatment. In these goldfields the successful use of the cyanide process is steadily extending, with the result that many ores that formerly were worked at a loss by amalgamation processes now yield regular returns on the capital invested.

Indeed, the cyanide process is the most noteworthy improvement as yet introduced in the treatment of gold- and silver-bearing ores. It is particularly suitable where the gold is found in the ore in fine particles; whereas, if the gold be at all coarse, cyanide will do no more than cleanse and brighten its surface and render it fitter for amalgamation. The process may be briefly described thus: The ore is first dry-crushed, and the dust passed through a screen. The pulverised ore is then emptied into a vat and covered with a cyanide solution. The gold in the ore is dissolved by the cyanide, and, in order to separate the two, the liquor is leached off and run into a trough containing zinc turnings, where the action of the zinc precipitates the gold in a fine powder. The tailings from the leaching-vats are run over tables covered with copper-plates coated with quicksilver, and any particles of gold remaining in the ore are by this means arrested on the plates. It was at one time thought that dry-crushing would be a very expensive mode of reducing the ore, but the Waihi Company have proved the contrary. The cost of drying and crushing ready for the leaching-process is under 6s. a ton, and more gold is obtained in this way than is yielded by wet-crushing. It is found that in the latter process much of the precious metal is carried off with the water and does not remain in the tailings.

In recent experiments bromine and iodine have been used in conjunction with cyanide, with the two-fold result, it is said, of hastening the dissolution of gold and of saving some of the loss in cyanide. Seaweed has also been tried, and is reported to have a similar effect. In all likelihood, therefore, the method of treatment will one day be rendered at once cheaper, speedier, and more thorough than it is at present.

The two main obstacles in the way of the process are—first, the difficulty of reducing the base metals found in gold- and silver-bearing ores, of which copper and antimony are the most refractory; second, the trouble experienced in leaching ore in a slimy state, as the slime absorbs the cyanide solution, and is thereby enriched with

gold. It then sets so closely that the gold solution cannot be filtered.

By a statute passed in December, 1897, and termed "The Cyanide Process Gold-extraction Act, 1897," an agreement was approved by Parliament under which the Government arranged to purchase the patent rights in New Zealand of the Cassel Gold-extracting Company, thus rendering the said patent rights available for mining purposes at reasonable rates of royalty. The process used under the patent is what is commonly known as the cyanide process, and the operation of the Act should prove highly important to the development of low-grade ores, and otherwise promote the mining industry.

Quartz and Alluvial Workings.

The working of quartz mines and deep alluvial drifts necessitates a large outlay of money before returns can be expected, and can only be undertaken when capital is available. In the case of quartz mines, the reef must be sufficiently opened to ascertain the value and extent of the ore reserves preparatory to the erection of reduction machinery, which must be constructed on the most modern principles to insure efficiency and economy in the handling and treatment of large bodies of ore.

The introduction of capital has the effect of enabling the claims not only to be worked at greater depths than heretofore, but they will also be worked in a more systematic and economical manner. Modern machinery and appliances are introduced and erected for the reduction and treatment of auriferous ores, and it is expected that a far larger percentage of the gold will be recovered than has been the case in the past.

The improved appliances introduced in dredging and hydraulic sluicing machinery have made it possible to work with profit alluvial ground and drifts that a few years ago could not be handled remuneratively on account of their low grade.

In the successful working of alluvial drifts containing only a few grains of gold to the ton or cubic yard, a large and constant supply of water is of primary importance, and to secure this the construction of expensive races must be undertaken as the initial step towards systematic development.

In the colony there are large areas covered with auriferous drifts which will prove remunerative if a sufficient quantity of water can be obtained to work them on an extensive scale; and the number of men who can be profitably employed in alluvial workings will always be in proportion to the quantity of water available.

The deep leads of the West Coast are coming into prominent notice, and, with systematic working and careful management, promise to develop into paying concerns.

COAL.

The vast extent of coal-measures in New Zealand will make coal-mining one of the largest industries in the colony, especially on the west coast of the Middle Island, where bituminous coal exists equal, if not superior, in quality to coal of the same class in any part of the world.

The progressive increase in the output of coal from 1878 to the end of 1897 is shown below:—

Year.	Raised in the Colony.		Imported.	Total raised in the Colony, and imported, per Annum.	Exported (excluding Coal for Fuel by Ocean Steamers).	Total Consumption of Coal within the Colony.	Yearly increase in Consumption within the Colony.
	Total.	Yearly Increase.					
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1878 ..	162,218	..	174,148	336,366	3,921	332,445	..
1879 ..	231,218	69,000	158,076	389,294	7,195	382,099	49,654
1880 ..	299,923	68,705	123,298	423,221	7,021	416,200	34,101
1881 ..	337,262	37,339	129,962	467,224	6,626	460,598	44,398
1882 ..	378,272	41,010	129,582	507,854	4,245	503,609	43,011
1883 ..	421,764	43,492	123,540	545,304	7,172	538,132	34,523
1884 ..	480,831	59,067	143,444	629,275	6,354	622,921	84,789
1885 ..	511,003	30,232	130,202	641,265	2,371	638,894	15,973
1886 ..	534,353	23,290	119,873	654,226	2,862	651,364	12,470
1887 ..	558,620	24,267	107,230	665,850	12,951	652,899	1,535
1888 ..	613,895	55,275	101,341	715,236	27,678	687,558	34,659
1889 ..	586,445	-27,450*	128,063	714,508	39,290	675,218	12,340
1890 ..	637,397	50,952	110,939	748,336	33,404	714,932	39,714
1891 ..	668,794	31,397	125,318	794,112	29,093	764,019	49,087
1892 ..	673,315	4,521	125,433	798,768	23,169	770,599	6,580
1893 ..	691,548	18,233	117,444	808,992	24,288	784,704	14,105
1894 ..	719,546	27,998	112,961	832,507	25,449	807,058	22,354
1895 ..	726,654	7,108	108,198	834,852	26,151	808,701	1,643
1896 ..	792,851	66,197	101,756	894,607	27,974	866,633	57,932
1897 ..	840,713	47,862	110,907	951,620	26,639	924,981	58,348

* Decrease.

It will be seen from the above that there has been a steady increase in the output of coal from the mines in the colony, year after year, since records have been kept by the Mines Department—with the exception of 1889. The yearly increase in output is principally due to the growing demand for consumption within the colony. During a period of eighteen years the annual consumption of coal in New Zealand has increased to the extent of 508,781 tons, showing that new industries are quickly springing up, requiring fuel for generating motive-power.

The total output from the mines last year was 840,713 tons, as against 792,851 tons for 1896, an increased output of 47,862 tons. The coal imported from other countries was 110,907 tons, against

101,756 tons in 1896, an increase in the importation last year of 9,151 tons. The imports were 1,500 tons from the United Kingdom, 109,403 tons from New South Wales, and 4 tons from Victoria. The total export of coal was 82,396 tons, of which 76,073 tons were colonial produce, and 6,323 tons imported coal from other countries. Of the coal exported, 55,757 tons were for coaling direct steamers trading between the colony and the United Kingdom, and has been treated as coal consumed within the colony, these steamers trading wholly between New Zealand and Great Britain. Taking, therefore, the output from the mines and the coal imported, there is a total of 951,620 tons, of which 26,639 tons were exported, leaving the consumption within the colony last year 924,981 tons, as against 866,633 tons for 1896, an increased consumption of 58,348 tons.

The largest increase in the output last year was in the Westport district—namely, 35,855 tons. There was also an increased production from the mines in the Otago District of 18,478 tons, from the Waikato mines of 4,226 tons, from the Malvern coalfields of 1,996 tons, from the Mokau 1,205 tons, and from the West Wanganui Mine of 404 tons; but there was a decline in other places, the largest falling off being in the Greymouth district—9,214 tons.

The quantities of coal produced in each district are as under:—

Name of District.	Output of Coal.		Increase or Decrease.	Approximate total Output of Coal up to the 31st December, 1897.
	1896.	1897.		
	Tons.	Tons.	Tons.	Tons.
Kawakawa and Hikurangi ..	53,586	53,449	- 137	974,187
Whangarei, Kamo, Ngunguru, and Whauwhau ..	21,106	17,285	- 3,821	375,053
Waikato	61,899	66,125	+ 4,226	950,857
Mokau	1,943	3,148	+ 1,205	13,653
Pelorus	..	..	..	711
West Wanganui	504	908	+ 404	49,766
Westport	262,696	298,551	+ 35,855	2,642,983
Reefton	3,795	2,865	- 930	70,672
Greymouth	137,890	128,676	- 9,214	2,895,928
Malvern	11,714	13,710	+ 1,996	341,685
Timaru	103	..	- 103	10,657
Otago	193,814	212,292	+ 18,478	3,324,297
Southland	43,801	43,704	- 97	426,164
Totals	792,851	840,713	+ 47,862 (Net)	11,576,613

The following table, constructed from "Laboratory Reports of the Geological Survey" (Sir J. Hector) gives the composition of samples of New Zealand coals freshly taken from the principal mines:—

Number.	Description.	Locality.	Analysis.				Eva- porative Power.*	
			Fixed Carbon.	Hydro- carbon.	Water.	Ash.	1.	2.
1	Anthracite ..	Acheron, Canterbury ..	84.12	1.96	1.80	12.12	10.93	18.50
2	Bituminous ..	Coalbrookdale ..	74.83	20.50	1.16	3.51	9.70	16.45
3	" ..	" ..	70.00	22.15	2.52	5.33	9.10	15.40
4	" ..	Banbury ..	69.97	25.71	0.99	3.33	9.09	15.38
5	Altered brown coal ..	Malvern Hills ..	68.54	19.89	4.15	7.42	8.27	12.50
6	Bituminous ..	Tyneside ..	65.59	29.18	0.82	4.41	8.52	13.55
7	Glance coal ..	Rakaia Gorge ..	64.51	21.27	6.76	7.46	8.30	13.20
8	Bituminous ..	Wallsend ..	62.87	31.64	1.66	3.83	8.17	13.82
9	" ..	Grey River ..	62.37	29.44	1.99	6.20	8.01	13.22
10	Pitch coal ..	Kawakawa ..	61.16	28.00	2.51	8.33	7.95	12.55
11	Bituminous ..	Preservation Inlet ..	60.88	28.60	4.33	6.19	7.91	12.80
12	Pitch coal ..	Blackball, Grey River ..	60.20	29.97	8.01	1.82	7.82	12.20
13	Bituminous ..	Mokihinui ..	59.75	32.14	3.97	4.14	7.76	11.80
14	" ..	Coalpit Heath ..	58.81	38.98	1.02	1.19	7.64	12.96
15	" ..	Mokihinui ..	57.92	34.94	3.96	3.18	7.50	12.75
16	" ..	Brunner Mine ..	56.62	35.68	1.59	6.11	7.36	12.46
17	" ..	" ..	56.21	37.73	1.50	4.56	7.30	12.36
18	" ..	Westport ..	56.01	37.17	2.60	4.22	7.28	12.30
19	" ..	Mokihinui ..	55.59	38.86	3.16	2.39	7.20	12.22
20	" ..	Brunner ..	54.16	35.85	2.50	7.49	7.04	11.91
21	Altered brown coal ..	Malvern Hills ..	53.29	32.04	12.65	2.02	6.92	11.50
22	Bituminous ..	Wallsend ..	53.10	35.47	1.41	10.02	6.90	11.68
23	" ..	Otamataura Creek ..	52.89	36.63	2.19	8.29	6.90	11.70
24	" ..	Near Cape Farewell ..	51.37	38.72	4.38	5.53	6.31	11.60
25	Pitch coal ..	Kawakawa ..	50.15	42.63	4.18	3.04	6.50	11.80
26	Glance coal ..	Whangarei ..	50.11	38.68	8.01	3.20	6.50	11.75
27	Pitch coal ..	Kamo ..	50.01	37.69	9.61	2.69	6.50	11.17
28	Brown coal ..	Malvern Hills ..	49.99	35.42	11.79	2.80	6.49	10.90
29	" ..	Fernhill ..	49.95	36.95	12.00	1.10	6.49	10.99
30	" ..	Allandale ..	47.31	34.26	12.41	6.02	6.15	10.96
31	" ..	Kaitangata ..	46.48	33.48	14.66	5.38	6.04	10.22
32	" ..	Shag Point ..	46.21	32.65	16.02	5.12	6.00	10.16
33	" ..	Homebush ..	44.92	36.00	15.83	3.25	5.83	9.87
34	Pitch coal ..	Hikurangi, Whangarei ..	44.50	47.00	5.99	2.51	5.78	9.79
35	Brown coal ..	Hokonui ..	44.28	38.22	16.50	1.00	5.75	9.77
36	" ..	Kaitangata ..	44.11	38.32	15.44	2.13	5.74	9.96
37	" ..	Nightcaps ..	43.62	33.68	18.33	4.37	5.67	9.59
38	Pitch coal ..	Shag Point ..	43.19	30.05	15.82	10.94	5.61	9.52
39	Brown coal ..	Springfield ..	42.68	33.66	18.65	5.01	5.55	9.38
40	" ..	Orepuki ..	42.64	36.26	14.44	6.66	5.54	9.38
41	" ..	Kaitangata ..	38.29	32.43	17.50	11.78	4.87	8.32
42	" ..	Shag Point ..	35.76	30.86	13.22	20.16	4.64	7.85
43	" ..	Allandale ..	34.72	41.43	18.99	4.86	4.51	7.63
44	Pitch coal ..	Grey River ..	34.72	56.48	6.20	2.60	4.51	7.63

FOR COMPARISON.

Newcastle, N.S.W.	Best ..	58.33	34.17	1.83	5.67	7.50	12.82
"	Worst ..	53.34	26.66	3.33	16.67	6.90	11.72

*The second column headed "Evaporative Power" is obtained by the use of a multiple computed from the results of Professor Liversedge's experiments upon the coals of New South Wales. The multiple used for the first column is the one which has long been generally used for computing the evaporative power of coals; but, to prevent any unfair and prejudicial comparison of our coals with those of New South Wales, the second column is given.

As regards the quality of the coal, it cannot be surpassed. The late Sir John Coode, in his presidential address to the Institute of Civil Engineers, London, stated: "The bituminous coal found on the west coast of the Middle Island is declared by engineers to be fully equal, if not superior, to the best description from any part of the world." The quantity of each class of coal produced in 1896 and 1897 was:—

Class of Coal.	Output of Coal.		Increase.	Approximate total Output of Coal up to the 31st December, 1897.
	1897.	1896.		
	Tons.	Tons.	Tons.	Tons.
Bituminous	504,764	473,637	31,127	6,146,449
Pitch	34,969	110,547	-75,578	1,686,056
Brown	268,020	179,744	88,276	3,366,254
Lignite	32,960	28,923	4,037	377,854
Totals	840,713	792,851	47,862 (Net)	11,576,613

It has been computed that to deliver coal at the pit-mouth costs in labour 6s. a ton. The number of men employed in all the coal-mines last year was 1,912, and the output of coal, 840,713 tons: the average earning per man would thus be £131 18s. 2d. per annum, or about £2 10s. 8d. per week.

OTHER METALS OR MINERALS.

Very little has been done in the colony to prospect and develop mines other than for gold and silver. The only exports last year of metalliferous products, excluding gold and silver, were 10 tons of antimony-ore, 180 tons of manganese-ore, 1,481 tons of sulphur, and small parcels of other minerals, representing an aggregate value of £6,592.

KAURI-GUM.

The quantity of kauri-gum exported last year was 6,641 tons, as against 7,126 tons for 1896. Last year's produce (£398,010) gave an average value of about £59 18s. 8d. per ton, while for 1896 the average was £60 10s. 7d. per ton.

SECTION XVI.—OCCUPATION OF LAND; AND LIVE-STOCK.

OCCUPIED LANDS.

THE occupation of land must not be confused with ownership, because there are large parcels of lands held which are unused and unoccupied. Neither can lands occupied be properly compared with the returns of Crown lands alienated or in process of alienation, for certain lands have passed into the hands of Europeans which were never made waste lands of the Crown.

The occupied lands of the colony have been returned by the Department of Agriculture for 1897-98 at 33,980,479 acres, including Crown lands leased for pastoral purposes only, or 668,267 acres in excess of the quantity for the preceding year.

A table is given showing the numbers and acreages of holdings, grouped according to size, for the two years in which the Department of Agriculture has compiled the information.

The return of occupied holdings of 1 acre and upwards in extent shows a total of 60,759 for 1897-98, against 58,940 for 1896-97, or an increase of 1,819.

The result of this year's enumeration seems to prove that the figures of 1896-97 were near to the truth, and is satisfactory as corroborating them.

In 1895 the holdings of over 1 acre in extent, as returned to the Registrar-General, numbered only 46,676; but the holdings of exactly 1 acre were excluded, besides certain holdings occupied by Maoris.

OCCUPIED LANDS: HOLDINGS.

[This and the succeeding statement deal with the full extent of occupied land, including Crown pastoral leases.]

Sizes of Holdings.				No. of Holdings.	
				1896-97.	1897-98.
	1 acre to	10 acres, inclusive		16,715	17,133
Over	10 acres to	50	..	11,008	11,182
"	50	100	..	6,833	7,068
"	100	200	..	8,804	9,192
"	200	320	..	5,296	5,481
"	320	640	..	5,244	5,436
"	640	1,000	..	1,829	1,956
"	1,000	5,000	..	2,367	2,454
"	5,000	10,000	..	343	345
"	10,000	20,000	..	227	246
"	20,000	50,000	..	162	164
Upwards of 50,000 acres	..	..	..	112	102
				58,940	60,759

OCCUPIED LANDS : ACREAGES.					
Sizes of Holdings.				1896-97.	1897-98.
				Acres.	Acres.
	1 acre to	10 acres, inclusive	..	69,626	68,929
Over	10 acres to	50	..	316,493	317,321
	50	100	..	548,035	558,798
"	100	200	..	1,369,170	1,396,699
"	200	320	..	1,387,431	1,431,406
"	320	640	..	2,449,451	2,492,275
"	640	1,000	..	1,486,693	1,611,267
"	1,000	5,000	..	4,929,539	5,165,119
"	5,000	10,000	..	2,422,197	2,416,149
"	10,000	20,000	..	3,293,706	3,501,576
"	20,000	50,000	..	4,913,228	5,251,819
Upwards of 50,000 acres	..	..	..	10,126,643	9,769,121
				33,312,212	33,980,479

In regard to holdings, out of a total of 60,759, the large proportion of 35,383, or 58.23 per cent., were from 1 to 100 acres in extent; 44,575 or 73.36 per cent., were from 1 to 200 acres; and 50,056, or 82.38 per cent., were from 1 to 320 acres in size. The total number over 320 acres was only 10,703, or 17.62 per cent. of the whole, thus indicating a considerable degree of moderately close settlement, although the area of the holdings over the 320 acres limit necessarily shows as very large in a table which includes the Crown pastoral leases.

The plan of excluding these leases from the table showing the holdings in classes has its advantages, though not now adopted.

From the total extent of occupied land shown for the colony, the area of the Crown pastoral leases as stated by the enumerators can be deducted, and comparison then made for the census years 1886 and 1891, and the Agricultural Department returns for 1897-98.

The figures are :—

	Census Results, March, 1886.	Census Results, April, 1891.	Figures returned by Department of Agriculture, 1897-98.
	Acres.	Acres.	Acres.
Total area of occupied land (after deducting Crown pastoral leases)	17,077,074	19,951,925	24,523,194

The increase of land in occupation is found to be: For five years, 1886-91, 2,874,851 acres, or an average increase of 574,970 acres per annum; and for seven years, from April, 1891, to, say, January, 1898, 4,571,269 acres, or a higher annual average of 653,038 acres, being a somewhat greater yearly increase than that of the previous period. But in the figures for 1897-98, the area of certain holdings occupied by Maoris is included, while the course adopted previously was to deal with holdings occupied by Europeans only.

Two further tables are given to show in provincial districts the occupation of the lands—one in respect of acreage and numbers of holdings, the other in respect of tenure.

Occupied Holdings of Land, 1898.

I. Number of — Classified according to size.

Total Number of Holdings, 60,759

17,133	1 to 10 ACRES
11,102	10 to 50
7,068	50 to 100
9,192	100 to 200
5,481	200 to 320
5,436	320 to 640
1,936	640 to 1,000
2,454	1,000 to 5,000
857	5,000 and upwards.

* as returned by Department of Agriculture - see page 367

II. Acreage of— In groups of sizes.

(including Crown Pastoral Leases.)

Total Acreage of Occupied land (including Crown Pastoral Leases) 33,980,479 Acres.

945,048	1 to 100 ACRES
1,396,699	100 to 200
1,431,406	200 to 320
2,492,275	320 to 640
1,611,267	640 to 1,000
5,165,119	1,000 to 5,000
2,416,149	5,000 to 10,000
3,501,576	10,000 to 20,000
5,251,819	20,000 to 50,000
9,769,121	50,000 and upwards.

OCCUPATION OF LAND.

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OCCUPATION OF LAND : NUMBER AND AREA OF HOLDINGS.

Provincial Districts.	Total of Holdings.	1-10 Acres, Inclusive.	Over 10-50 Acres, Inclusive.	Over 50-100 Acres, Inclusive.	Over 100-200 Acres, Inclusive.	Over 200-300 Acres, Inclusive.	Over 300-640 Acres, Inclusive.	Over 640-1,000 Acres, Inclusive.	Over 1,000-5,000 Acres, Inclusive.	Over 5,000-10,000 Acres, Inclusive.	Over 10,000-20,000 Acres, Inclusive.	Over 20,000-50,000 Acres, Inclusive.	Over 50,000 Acres.
Auckland: Area in acres Number of holdings	4,692,592 13,264	13,690 3,442	76,323 2,527	143,401 1,803	321,185 2,148	327,632 1,948	403,851 1,104	345,461 422	978,515 467	458,502 63	362,639 36	608,237 19	562,997
Taranaki: Area in acres Number of holdings	985,915 4,442	2,760 602	18,104 605	64,172 807	173,211 1,161	151,316 689	192,253 427	104,818 132	212,806 121	31,228 6	35,252 3	...	...
Hawke's Bay: Area in acres Number of holdings	3,279,688 3,157	5,076 1,207	17,213 617	20,743 271	44,601 295	43,213 156	98,390 205	74,080 83	415,654 185	344,902 46	628,240 46	966,579 35	620,427 6
Wellington: Area in acres Number of holdings	3,676,097 9,785	11,542 2,610	45,571 1,657	89,038 1,042	256,052 1,604	244,630 917	481,328 1,011	814,716 363	976,019 479	401,610 60	509,712 34	189,859 6	156,000 2
Marlborough: Area in acres Number of holdings	2,147,510 1,359	1,718 612	5,403 198	7,888 108	23,083 160	27,345 100	59,659 118	45,570 64	155,906 75	66,298 10	207,229 14	306,311 9	1,241,100 11
Nelson: Area in acres Number of holdings	1,901,789 3,068	3,147 816	17,865 612	29,356 376	68,059 601	64,109 256	119,034 271	86,603 114	253,406 110	34,578 11	35,146 3	464,292 13	726,194 6
Westland: Area in acres Number of holdings	684,558 631	679 169	3,751 121	7,273 97	13,762 93	12,594 48	14,778 34	6,984 9	35,547 14	84,792 12	104,597 7	194,261 6	155,300 1
Canterbury: Area in acres Number of holdings	6,171,645 10,879	14,476 3,666	67,132 2,363	89,877 1,160	181,046 1,247	292,590 779	376,462 824	243,485 303	980,709 458	460,787 60	610,723 86	1,029,346 30	1,924,387 23
Otago: Area in acres Number of holdings	10,490,775 14,154	15,841 4,139	65,990 2,462	107,040 1,394	315,030 2,006	333,078 1,366	556,010 1,442	388,923 476	1,150,557 665	543,332 78	1,007,732 73	1,492,034 46	4,382,716 48
Totals { Area in Acres Number of holdings	33,980,479 60,759	66,929 17,133	317,321 11,182	553,798 7,068	1,395,699 9,192	1,431,406 5,431	2,492,275 5,436	1,611,937 1,966	5,165,119 2,454	416,149 345	1,503,576 246	2,251,819 764	9,769,121 108

OCCUPATION OF LAND : TENURE.

Provincial Districts.	Total of Holdings.	Freehold.	Leased from Private Individuals or Public Bodies.	Leased from Natives.	Held from Crown under different Tenures.	Held under Pastoral License.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Auckland ..	4,692,502	3,121,672	513,627	395,876	599,379	61,948
Taranaki ..	985,915	563,944	165,600	83,558	171,381	1,432
Hawke's Bay ..	3,273,688	1,843,143	263,410	906,405	145,546	121,184
Wellington ..	3,676,097	2,390,359	438,113	271,060	567,995	8,570
Marlborough ..	2,147,510	820,400	32,477	3,382	111,111	1,180,140
Nelson ..	1,901,789	959,986	268,144	13,771	459,150	200,738
Westland ..	634,558	51,602	23,449	3,550	206,296	349,661
Canterbury ..	6,171,645	2,806,185	856,479	6,745	299,983	2,202,253
Otago ...	10,490,775	2,839,522	1,100,896	11,023	1,207,975	5,331,359
Totals ..	33,980,479	15,396,813	3,662,195	1,695,370	3,763,816	9,457,285

Deducting the land returned as held under pastoral leases, the provincial districts stand in the following order as to acreage occupied :—

Otago ..	5,159,416 acres.	Nelson ..	1,701,051 acres.
Auckland ..	4,630,554 "	Taranaki ..	984,483 "
Canterbury ..	3,969,392 "	Marlborough ..	967,370 "
Wellington ..	3,667,527 "	Westland ..	234,897 "
Hawke's Bay ..	3,158,504 "		

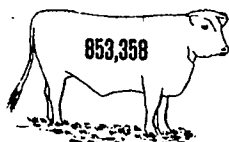
Arranged according to the number of holdings, the order becomes as under :—

Otago ..	14,154 holdings.	Hawke's Bay ..	3,157 holdings.
Auckland ..	13,264 "	Nelson ..	3,088 "
Canterbury ..	10,879 "	Marlborough ..	1,359 "
Wellington ..	9,785 "	Westland ..	631 "
Taranaki ..	4,442 "		

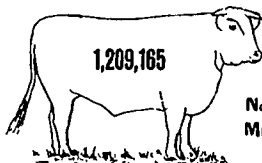
The occupied holdings of the North Island are now slightly in excess of those of the Middle Island, the numbers being : North Island, 30,648 ; Middle Island, 30,111. This is the first enumeration in which the balance lay in favour of the North Island. For the year 1896-97 the returns showed 29,535 holdings for the Middle Island, against 29,369 for the North, besides 36 holdings at the Chatham Islands, of which there is no account this year.

LIVE-STOCK.

A comparative table is presented showing the increase in live-stock since the year 1858. The figures are taken from the census as far as 1891, but for 1895-96 and following years the results of the enumeration made annually by the Department of Agriculture under "The Agricultural and Pastoral Statistics Act, 1895," have been made use of.

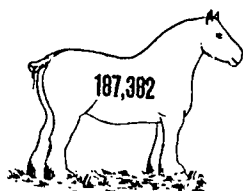


1886

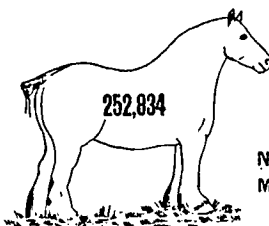


1897-98

1897-98
North Is^d 850,299
Middle - 358,866
1,209,165

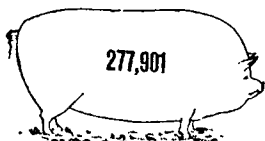


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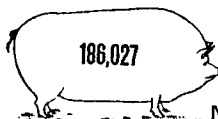


1897-98

1897-98
North Is^d 138,364
Middle - 114,470
252,834



1886



1897-98

1897-98
North Is^d 113,241
Middle - 72,786
186,027

1888
North Is^d 5,668,996
Middle - 9,373,202
15,042,198

1897
9,540,717
10,147,237
19,687,954



1888



1897

1886	277,901	853,358
1897-98	186,027	1,209,165
1886	187,382	
1897-98	252,834	
1886		
1897-98		
1888		
1897		
PICS		
HORSES		
CATTLE		
SHEEP		

LIVE STOCK

Year.	Horses.	Asses and Mules.	Cattle.	Sheep.	Goats.	Pigs.	Poultry.
1858 ..	14,912	122	137,204	1,523,324	11,797	40,734	*
1861 ..	28,275	153	193,285	2,761,383	12,191	43,270	236,098
1864 ..	49,409	339	249,760.	4,937,273	12,005	61,276	378,414
1867 ..	65,715	323	312,835	8,418,579	11,964	115,104	676,065
1871 ..	81,028	397	436,592	9,700,629	12,434	151,460	872,174
1874 ..	99,859	267	494,917	11,704,853	14,276	123,921	1,058,198
1878 ..	137,768	241	578,430	13,069,338	14,243	207,337	1,323,542
1881 ..	161,736	362	698,637	12,985,085	11,223	200,033	1,566,114
1886 ..	187,382	297	853,358	16,564,595	10,220	277,901	1,679,021
1891 ..	211,040	348	831,831	18,128,186	9,055	308,812	1,790,070
1895-96	237,418	426	1,047,901	19,826,604†	*	239,778	*
1896-97	249,813	434	1,138,067	19,138,493†	*	209,834	*
1897-98	252,834	393	1,209,165	19,687,954†	*	186,027	*

* Not enumerated.

† Numbers for April, 1895, 1896, and 1897.

The stock owned by Maoris in the year 1896, which is included above, comprised 314,406 sheep, and 29,125 head of cattle. The number of horses is not specified, but is known to be large.

TABLE SHOWING FOR EACH COUNTY IN NEW ZEALAND THE NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN 1897.

County.	Horses, November 1897.	Cattle, including Calves, November, 1897.	Dairy Cows, included in foregoing.	Sheep, including Lambs, April, 1897.	* Pigs, November, 1897.
Mongonui ..	1,531	5,878	713	24,019	2,065
Whangaroa ..	373	1,249	157	4,963	697
Hokianga ..	2,069	4,555	1,406	11,193	2,012
Bay of Islands ..	2,159	8,949	1,147	33,659	1,777
Hobson ..	1,099	9,000	1,837	14,699	1,350
Whangarei ..	3,009	21,625	5,586	43,566	1,985
Otamatea ..	1,395	12,016	1,926	47,077	899
Rodney ..	1,820	11,285	2,920	70,612	917
Waitemata ..	2,312	12,888	3,247	33,549	875
Eden ..	4,125	7,035	3,691	3,693	2,062
Manukau ..	7,305	49,080	19,070	83,357	5,346
Coromandel ..	687	3,072	744	9,912	390
Thames ..	1,404	3,368	1,298	7,283	991
Ohinemuri ..	933	3,895	746	3,488	530
Piako ..	2,019	25,889	2,176	194,789	1,020
Waikato ..	2,426	14,147	2,351	76,523	1,736
Waipa ..	3,110	19,855	5,127	40,216	3,378
Raglan ..	4,009	19,543	2,339	58,590	4,950
Kawhia ..	3,758	9,730	993	39,228	9,946
West Taupo ..	1,770	4,862	209	2,670	2,670
East Taupo ..	574	710	73	*29,100	482
Rotorua ..	620	787	165	17,410	643
Tauranga ..	2,834	14,471	1,823	4,169	2,030
Whakatane ..	3,219	8,428	1,486	47,476	2,378
Waipatu ..	3,006	9,874	280	232,514	2,924
Cook ..	6,443	26,351	3,631	759,607	2,973

* Part of East Taupo, with Rotorua.

† Including part of East Taupo.

TABLE SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, ETC.—*continued.*

County.	Horses, November, 1897.	Cattle, including Calves, November, 1897.	Dairy Cows, included in foregoing.	Sheep, including Lambs, April, 1897.	Pigs, November, 1897.
Clifton ..	1,007	14,088	3,888	89,992	1,045
Taranaki ..	5,378	61,330	26,478		6,040
Stratford ..	2,025	34,568	11,514		2,786
Hawera ..	5,891	76,156	22,333	150,103	5,511
Patea ..	2,981	25,016	5,358	216,369	1,330
Wairoa ..	2,656	5,403	943	496,053	1,541
Hawke's Bay ..	7,211	26,062	4,481	1,814,372	3,751
Waipawa ..	4,824	31,749	7,176	713,871	2,476
Patangata ..	2,857	23,149	988	726,281	493
Waitotara ..	2,243	12,269	2,311	167,360	1,279
Wanganui ..	4,745	17,599	2,847	365,500	4,573
Rangitikei ..	4,697	24,472	3,323	500,846	2,897
Oroua ..	4,841	29,495	8,671	375,090	4,146
Kiwitea ..	1,719	11,870	2,134	255,771	1,491
Pohangina ..	983	5,791	1,596	80,545	1,242
Manawatu ..	2,264	18,465	3,980	216,034	2,487
Horowhenua ..	2,254	14,131	3,347	171,006	2,370
Pahiatua ..	1,736	16,356	5,286	175,354	1,415
Wairarapa North..	5,703	38,461	5,435	819,636	2,448
Wairarapa South..	4,626	41,093	7,818	606,459	3,684
Hutt ..	3,714	14,729	7,694	219,483	3,210
Sounds ..	196	2,444	693	127,882	963
Marlborough ..	3,553	8,933	2,791	533,253	1,870
Kaikoura ..	909	2,545	912	181,050	710
Collingwood ..	1,068	6,926	1,829	45,792	1,699
Waimea ..	4,667	13,256	4,817	221,562	5,461
Buller ..	390	3,867	1,552	2,238	657
Inangahua ..	830	6,989	1,269	27,753	1,071
Amuri ..	1,185	3,493	328	403,417	106
Cheviot ..	814	3,110	922	172,740	290
Grey ..	621	5,226	1,664	13,528	794
Westland ..	1,811	10,211	2,273	17,708	961
Ashley ..	7,456	16,294	6,318	779,373	6,705
Selwyn ..	14,838	29,709	15,304	763,979	13,258
Akaroa ..	2,762	21,017	5,664	265,037	2,190
Ashburton ..	8,395	9,492	3,880	832,621	5,256
Geraldine ..	4,350	6,563	2,326	705,252	2,269
Levels ..	3,837	5,211	2,340		1,856
Waimate ..	4,180	6,709	2,123		1,954
Nackenzie ..	1,189	2,391	605	376,131	216
Waitaki ..	6,006	17,957	6,290	553,719	2,530
Waihemo ..	1,263	4,069	1,430	142,205	412
Waikouaiti ..	1,413	9,403	4,740	89,782	1,701
Peninsula ..	795	7,048	4,578	7,856	959
Taiari ..	6,614	24,767	9,909	238,653	3,934
Bruce ..	3,889	10,137	3,743	191,703	1,716
Clutha ..	4,510	16,756	5,119	299,322	1,655
Tuapeka ..	3,658	7,493	2,337	379,985	1,175
Maniototo ..	2,191	6,831	1,550	327,681	516
Vincent ..	2,120	4,979	1,362	328,829	1,197
Lake ..	1,468	3,344	983	154,320	560
Southland ..	14,817	59,548	17,887	856,416	7,366
Wallace and Fiord	4,768	21,878	4,726	450,594	1,217
Stewart Island ..	7	270	79		12
Totals ..	252,834	1,209,165	324,485*	19,687,954	186,027

* Not including 36,108 heifers over two years old intended for dairying.

Live-stock in Australasian Colonies.

The following gives the number of the principal kinds of live-stock in the several Australasian Colonies for the year 1896:—

		Cattle.	Horses.	Sheep.	Pigs.
Queensland	.. ..	6,507,377	452,207	19,593,696	97,434
New South Wales	.. ..	2,226,163	510,636	48,318,790	214,581
Victoria	.. ..	1,833,900	431,547	13,180,943	337,588
South Australia (1894)	.. ..	337,225	177,078	6,323,993	59,479
Western Australia	.. ..	199,793	57,527	2,248,976	31,154
Tasmania	.. ..	157,230	29,447	1,640,567	55,261
		1896-97.	1896-97	30th April, 1896.	1896-97.
New Zealand	.. ..	1,138,067	249,813	19,138,493	209,834

New Zealand thus takes third place in order for number of sheep, and fourth for the number of her cattle and horses.

Sheep.

The returns made to the Department of Agriculture show a smaller number of sheep for the years 1886 and 1891 than the census figures given previously, because the account was taken later in the year. The particulars are given for twelve years, distinguishing the number for the North from that in the Middle Island.

According to these returns, the flocks of the North Island increased from 5,285,907 sheep in the year 1886 to 9,540,717 in 1897, or at the rate of 80 per cent., while sheep in the Middle Island increased only from 9,888,356 to 10,147,237, or less than 3 per cent. in the same period. For the North Island the increase during the twelve years was 4,254,810 sheep, and for the Middle Island only 258,881.

Year.	North Island	Middle Island.	Total.
1886	5,285,907	9,888,356	15,174,263
1887	5,506,485	9,649,141	15,155,626
1888	5,668,996	9,373,202	15,042,198
1889	5,990,244	9,433,084	15,423,328
1890	6,588,346	9,527,767	16,116,113
1891	7,159,927	9,593,825	16,753,752
1892	8,204,029	10,366,723	18,570,752
1893	8,685,361	10,695,008	19,380,369
1894	9,169,352	11,061,477	20,230,829
1895	8,994,646	10,831,958	19,826,604
1896	9,131,736	10,006,757	19,138,493
1897	9,540,717	10,147,237	19,687,954

By the above figures, the increase in sheep between 1891 and 1897 amounted to 2,934,202, or at a rate of 17·51 per cent. The export and local consumption of wool developed from 111,537,546 lb. for the year ended September, 1891, to 137,709,424 lb. for the corresponding year of 1897. The export of sheepskins and pelts, which in 1890 was 2,292,521 in number, reached 3,230,539 in 1895, decreased in 1896 to 3,001,791, but rose again to 3,688,053 in 1897.

The increase of sheep has taken place notwithstanding the slaughter needed for an export of frozen mutton increasing from 898,894 cwt. in the year 1890 to 1,103,362 cwt in 1896.

The proportion of small flocks of sheep has increased very considerably between the census years, and with smaller flocks the rabbit difficulty is easier to master than with large ones.

NUMBER OF FLOCKS, 1886, 1891, 1896, AND 1897.							
Size of Flocks.				1886.	1891.	1896.	1897.
Under 500	..	..	..	6,024	8,272	12,028	12,706
500 and under 1,000	..	..	..	1,189	1,691	2,605	2,623
1,000	"	2,000	..	747	969	1,460	2,421*
2,000	"	5,000	..	532	666	892	
5,000	"	10,000	..	263	287	340	
10,000	"	20,000	..	228	239	231	226
20,000 and upwards	..	..	..	166	169	147	145
				9,149	12,293	17,703	18,468

The average size of the flocks is found to have been 1,659 sheep for 1886, 1,363 for 1891, 1,081 in 1896, and 1,066, in 1897.

Of the provincial districts that of Canterbury had most sheep in 1897 and in 1896, Otago came next, and Wellington occupied the third place. The full particulars are:—

Provincial Districts.	Number of Sheep in 1896.	Number of Sheep in 1897.	Increase.
Canterbury	4,301,300	4,379,249	77,949
Otago	3,995,496	4,021,065	25,569
Wellington	3,746,622	3,952,984	206,362
Hawke's Bay	3,241,477	3,250,577	9,100
Auckland	1,741,379	1,880,692	139,313
Nelson	854,149	873,502	19,353
Marlborough	827,597	842,185	14,588
Taranaki	402,258	456,464	54,206
Westland	28,215	31,236	3,021
	19,138,493	19,687,954	549,461

It has been estimated that the annual consumption of mutton in New Zealand is equivalent to 2.25 sheep per inhabitant, and that the number of sheep required in the present year (1898) for food will be about 1,744,000. (Maoris, for the purposes of this calculation, have been included.)

Two important advantages that sheep-farming has in New Zealand are mentioned by Mr. J. A. Johnstone in the Year-book for 1894. They are: (1) the low cost of the production of mutton, (2) the high percentage of natural increase. Respecting the first point, it has been proved beyond all doubt that, under ordinary conditions, this very choicest of mutton can be so produced as to pay the grower handsomely when sold at 2d. per pound for the carcass at the nearest shipping-port. To the British sheep-farmer this statement, of course, is valueless by itself; but, when told that this mutton would cost the London butcher, delivered *ex steamer* at the dock, only 3½d. per pound, he will be able to realise in some measure what a wonderful grazing-country New Zealand is, and to under-

* From 1,000 to 2,500	...	...	...	...	...	1,506
" 2,500 to 5,000	...	...	...	...	...	615
						2,421

stand how it is that settlers of the right stamp have done so well. Then, with regard to the high percentage of increase, there need only be cited a few average returns from well-known flocks to show what excellent lambings New Zealand farmers obtain under good management.

LAMBING RETURNS.—AVERAGES.

Locality.	Breed of Flock.	Breed of Rams.	Breed of Ewes.	No. of Ewes.	Percentage of Lambs.	Remarks.
North Island ..	Lincoln	Lincoln	Lincoln	7,517	81.04	Land merely surface-sown in English-grass pasture. Mountainous country in native pasture, unimproved.
" ..	"	"	"	5,301	85.05	
" ..	"	"	$\frac{1}{2}$ Lincoln	12,177	100.00	
" ..	Romney	Romney	Romney	1,141	96.17	
" ..	Lincoln	Southd'n	Lincoln	2,033	94.71	
Middle Island	Merino	Merino	Merino	14,765	75.36	In English-grass pasture.
" ..	"	B. Leic'str	"	4,235	88.94	
" ..	Cross-bred	"	Cross-bred	8,624	80.82	
" ..	Half-bred	"	Half-bred	2,747	82.79	
" ..	B. Leic'str	"	B. Leic'str	778	90.77	
" ..	Lincoln	Lincoln	Lincoln	452	88.08	
" ..	R. Marsh	R. Marsh	R. Marsh	253	111.46	
" ..	E. Leic'str	E. Leic'str	E. Leic'str	464	93.34	
" ..	Shropshire	Shropshire	Shropshire	168	97.41	
" ..	Southd'n	Southd'n	Southd'n	114	96.87	

The above returns are fair average ones, but much higher might have been shown if exceptional cases had been selected.

As showing the actual cost of managing two large estates in New Zealand (Middle Island), No. 1 carrying 20,000 cross-bred sheep, and No. 2 carrying 40,000, the subjoined table may prove interesting:—

	No. 1. Per Head.	No. 2. Per Head.
Cost of shearing, including scouring and putting wool f.o.b. ..	s. d. 0 6.5	s. d. 0 6.3
Management, shepherding, dipping, &c. ..	0 10	0 9.6
Cost of providing special feed (turnips, green feed, chaff, &c.) ..	1 1	1 6.3
Cost of renewing English grass ..	2 0	1 5
Total per head ..	4 5.5	4 3.2

Cattle.

The increase of cattle between 1891 and 1896 was 216,070, or at the rate of 25.98 per cent. The rapid development of the butter and cheese industry, shown on page 254 under the head of dairy factories, in Section X., Manufactories and Works, created a requirement for milch cows, which increased in number from 206,906 in 1891 to 276,217 in 1896, or at the rate of 33.50 per cent.

The cattle as enumerated in 1897-98 for each provincial district, with the increase on the number for the previous year, are given in the next table:—

Provincial District.	Bulls for Stud Purposes.	Steers over Two Years Old.	Cows and Heifers for Dairy Purposes.	Cows and Heifers for Breeding Purposes.	Cows and Heifers for Fattening.	Steers and Heifers under Two Years not otherwise enumerated.	Totals.
Auckland	4,610	64,919	75,026	39,404	14,043	110,045	308,047
Taranaki	2,708	32,186	75,444	7,377	7,792	85,651	211,153
Hawke's Bay ..	1,178	17,611	15,361	20,827	3,345	23,041	86,363
Wellington	3,397	43,839	60,951	38,165	9,684	88,695	244,731
Marlborough ..	292	1,907	4,578	927	818	5,400	13,922
Nelson	575	6,233	12,278	1,982	2,664	13,909	37,641
Westland	228	3,604	4,556	1,307	1,028	4,714	15,437
Canterbury	1,422	12,563	40,893	2,047	5,870	34,591	97,386
Otago	3,324	27,807	71,506	12,906	9,145	69,792	194,480
Totals, 1897-98 ..	17,734	210,669	360,593*	124,942	54,389	440,838	1,209,165
" 1896-97 ..	17,283	194,476	331,916*	127,315	49,039	418,038	1,138,067
Increase	451	16,193	28,677	†-2,373	5,350	22,800	71,098

* Including 36,108 heifers over two years old intended for dairying in 1897-98, and 31,697 in 1896-97. For actual number of dairy cows in each county see table on page 371.

† Decrease.

Classified according to breed, the numbers for the two years under review are:—

	1897-98.	1896-97.
Purebred—		
Shorthorn	61,964	100,080
Hereford	6,265	8,496
Polled Angus ..	10,774	9,401
Ayrshire	6,545	6,860
Jersey	3,535	4,298
Other purebreds ..	2,564	2,960
Crosses	1,117,518	1,005,972
Totals	1,209,165	1,138,067

Out of a total of 1,209,165 cattle in the colony, the North Island is shown to have had 850,299, or 70 per cent., while the Middle Island had 358,866, or 30 per cent. Similarly, the dairy cows and heifers intended for dairying in the North Island numbered 226,782, and in the Middle Island 133,811.

Thus, the North Island, while fast gaining on the Middle Island as regards number of sheep, contains considerably more dairy cows and other cattle.

Of the total number of cattle (1,209,165) given above, 324,485 were dairy cows. It is found impossible to give a statement of the actual amount of butter and cheese made in 1896-97, even at the factories only. All that can be said is that there were in September, 1897, 198 cheese- and butter-factories and 119 creameries reported to the Department of Agriculture, and that such returns of produce as had been obtained showed a total output of 10,037,440 lb. of butter and 4,513 tons of cheese for the year; but this is not the

full total produced, and it is not known how much more should be added. The census returns for 1896 show there were in that year only 170 factories and 105 creameries, the annual output at that time amounting to 11,386,776 lb. of butter and 4,323 tons of cheese.

Horses.

The increase in horses is shown for three census years:—

Census Years.	Number of Horses.	Numerical Increase.	Increase per Cent.
1886	187,382	23,658	12·63
1891	211,040		
1896	237,418		

At the enumeration made in December, 1897, and January, 1898, the number of horses was found to have increased to 253,227 (including 393 mules and asses), for which particulars are given. It will be seen that the Provincial District of Auckland had by far the most horses, Otago and Canterbury following, Wellington taking fourth place.

Provincial District.	Entires.	Geldings.	Mares over Two Years old.	Mares with Foal at Foot, or to foal this Season.	Colts and Fillies under Two Years old.	Totals.
Auckland ..	780	29,486	19,921	5,834	8,119	64,140
Taranaki ..	99	8,113	6,075	1,165	1,840	17,292
Hawke's Bay ..	141	8,633	5,998	1,208	1,626	17,606
Wellington ..	417	18,276	14,092	2,807	3,960	39,552
Marlborough ..	50	2,022	1,788	340	459	4,659
Nelson ..	78	3,833	3,006	635	813	8,365
Westland ..	25	869	655	149	237	1,935
Canterbury ..	446	21,496	17,674	2,977	4,029	46,622
Otago ..	371	23,500	20,235	3,318	5,632	53,056
Totals, 1897-98	2,407	116,228	89,444	18,433	26,715	253,227*
" 1896-97	2,506	114,796	87,093	18,062	27,790	250,247
Increase ..	..	1,432	2,351	371	..	2,980
Decrease ..	99	..	..	..	1,075	..

* Including 393 mules and asses.

Classified according to breed, the numbers for the two years under review are:—

	1897-98.	1896-97.
Thoroughbred	6,261	6,480
Hunter and hackney	28,057	32,993
Carriage and trotting	15,272	16,120
Light ordinary	102,238	96,076
Draught	88,390	88,043
Ponies under 14 hands	12,616	10,101
Mules and asses	393	434
Totals	253,227	250,247

It has long been expected that the export of New Zealand horses to Australia and India would assume large proportions. So far, however, the trade has not developed to the extent anticipated. The opinion has been often expressed that more might be done than has

been in the past. The following figures will show the position for the years 1885, 1890, 1895, 1896, and 1897:—

	Exported to	1885.	1890.	1895.	1896.	1897.
Victoria ..	..	133	92	10	22	34
New South Wales ..	..	2,687	197	53	53	26
Tasmania ..	..	113	27	1	1	23
Fiji ..	..	32	57	12	2	2
Bengal ..	..	34	235	94	151	55
Brazil ..	..	..	2	..	..	..
South Sea Islands ..	..	13	18	15	14	11
United Kingdom ..	..	..	..	5	6	1
United States of America (W. Coast)	..	10	..	3	..	..
		3,022	628	193	249	152

Pigs.

Pigs have been decreasing since 1891, when the number was 308,812, against 186,027 in 1897-98. The figures shown in the accompanying table are those compiled by the Agricultural Department, and again exhibit a very great reduction in the number of pigs kept. The Auckland Provincial District has far more pigs than any other.

NUMBER OF PIGS IN EACH PROVINCIAL DISTRICT.

Provincial District.	Boars for Stud Purposes.	Barrows and Sows over One Year old, for Fattening.	Sows kept solely for Breeding Purposes.	Barrows and Sows under One Year old.	Totals.
Auckland ..	1,575	12,329	8,318	34,804	57,026
Taranaki ..	359	2,213	2,093	12,047	16,712
Hawke's Bay ..	168	1,137	1,192	5,764	8,261
Wellington ..	762	3,149	4,647	22,684	31,242
Marlborough ..	109	488	423	2,523	3,543
Nelson ..	175	1,864	967	6,278	9,284
Westland ..	48	413	199	1,095	1,755
Canterbury ..	500	2,786	3,576	26,342	33,204
Otago ..	551	3,067	2,923	18,459	25,000
Totals, 1897-98	4,247	27,446	24,338	129,996	186,027
" 1896-97	4,520	31,765	25,332	148,217	209,834
Decrease ..	273	4,319	994	18,221	23,807

The approximate numbers of the different breeds were:—

	1897-98.	1896-97.
Pure Berkshire ..	32,570	41,749
Pure Yorkshire ..	4,446	5,066
Other purebreds ..	394	536
Crosses ..	148,617	162,483
Totals ..	186,027	209,834

Ostrich-farming.

Ostrich farming has been attempted in New Zealand, both in Canterbury Provincial District, and at Turanga Creek, near Auckland, particulars about which were published in the Year-book for 1897 (page 313).

SECTION XVII.—CROWN LANDS.

A SUMMARY of the transactions in Crown lands during the last ten years will be found in the next two tables. The first shows the acreage of land taken up for settlement, and the second the number of holdings under each description of tenure (the lands held under pastoral license and miscellaneous leases, such as for timber and flax-cutting, coal-mining, &c., not included). Tables III and IV. show the total acreage taken up year by year since 1889 in each land district, and the number of holdings, grouped according to size, the areas varying from less than one acre in extent to 1,000 acres and over.

Particulars as to the extent of lands held under pastoral leases, &c., and which are not dealt with in the succeeding tables, were in March, 1898, as under:—

Pastoral leases—

Number of holders	...	...	870
Approximate area	...	...	11,171,182 acres.
Rent paid during year	...	...	£78,372

Miscellaneous leases—

Number of holders	...	...	1,859
Area held	...	...	241,307 acres.
Annual rental	...	...	£7,720

The number of pastoral tenants, and area held in each land district was,—

	No.	Acre.	Rents paid during Year.
Auckland ..	13	141,954	£292
Hawke's Bay ..	16	123,359	626
Taranaki ..	..	..	..
Wellington ..	23	65,277	300
Nelson ..	106	989,055	5,129
Marlborough ..	74	757,433	5,316
Westland ..	195	510,987	747
Canterbury ..	101	3,071,411	31,375
Otago ..	247	4,197,796	30,802
Southland ..	95	1,313,910	3,785

The forfeitures and surrenders of pastoral lands for the year amount to fifty-four cases, with an area of 677,147 acres.

Under all other systems shown in the following tables the forfeitures and surrenders for the year amounted to 650, with an area of 102,119 acres. Forfeited and surrendered lands are again thrown open for selection as soon as possible, and in the majority of cases are taken up again by fresh selectors within a short time.

A full description of the various tenures under which land is dealt with in the colony is given in the article entitled "The Land System of New Zealand," in Part III. of this book.

I.—AREA OF LAND TAKEN UP UNDER VARIOUS TENURES (EXCLUDING PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES) DURING EACH OF THE YEARS ENDED 31ST MARCH, 1880-98.

	1880-89.	1889-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cash lands	68,498	46,922	100,014	40,501	36,927	34,999	38,695	26,575	28,485	22,525
Deferred payments	54,419	41,876	34,091	40,467	21,084	12,669	5,454	456	..	..
Perpetual lease and small areas	204,749	236,905	288,917	282,547	122,558	8,854	1,263	1,427	9,106	651
Occupation with right of purchase	..	..	..	..	54,271	108,133	75,478	84,968	59,648	81,414
Lease in perpetuity	..	..	..	..	55,820	179,993	91,799	122,350	104,927	117,938
Agricultural lease	150	53	551	90	194	365	45	36	13	258
Occupation lease under "The Mining Districts Land Occupation Act, 1894"	..	..	..	..	..	..	..	2,931	2,817	1,285
Village settlement—										
Cash	664	656	210	429	528	2	24	9	4	1
Deferred payment	1,182	782	370	182	391	..	..	..	..	..
Perpetual lease	622	1,729	954	893	2,636	..	..	..	..	..
Occupation with right of purchase	..	..	..	..	..	1	..	2	4	2
Lease in perpetuity	..	..	..	4	..	3,953	4,050	3,365	1,317	1,426
Village-homestead special settlement	345	270	350	2,213	494	2,550	2,743	793	360	42
Special-settlement associations	19,905	4,970	71	1,923*	157,381†	68,852†	51,346†	44,237	28,084†	†442
Homestead	1,050	1,751	945	1,010	88	..	..	..	..	..
Special-settlement improved farms	..	..	..	..	..	..	9,731	28,348	4,882	9,007
Small grazing-runs and grazing-farms	161,652	60,340	86,161	159,465	92,927	252,693	117,846	46,407	68,984	149,458
Totals	513,236	395,754	512,634	529,720	544,153	668,064	398,497	361,904	308,581	384,449

* Perpetual lease.

† Lease in perpetuity.

III.—LANDS TAKEN UP DURING THE YEARS ENDED 31ST MARCH, 1890-98 (EXCLUSIVE OF PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES).

Land District.	1890-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Auckland ..	85,674	95,510	105,120	115,454	134,992	99,313	67,831	49,522	56,295
Hawke's Bay ..	53,204	45,603	36,068	49,831	24,356	20,141	16,353	22,858	19,876
Taranaki ..	39,177	33,785	55,237	49,064	13,954	85,113	55,850	22,002	16,786
Wellington ..	106,320	108,053	82,311	156,237	84,871	49,586	79,478	63,801	48,909
Nelson ..	9,321	23,808	12,992	17,797	36,739	34,306	19,421	14,462	13,600
Marlborough ..	4,833	11,023	8,016	8,055	8,227	18,853	15,858	20,858	54,581
Canterbury ..	22,141	138,761	62,831	12,777	94,861	39,744	14,827	22,654	75,041
Westland ..	598	313	1,010	162	1,346	1,926	1,765	3,865	75,437
Otago ..	55,314	47,450	141,565	90,043	159,050	80,439	70,238	79,212	77,345
Southland ..	19,672	13,328	29,630	44,673	109,668	25,076	20,283	9,347	21,579
Totals ..	395,754	512,634	529,720	544,153	668,064	398,497	361,904	308,581	384,449

IV.—HOLDINGS TAKEN UP DURING THE YEARS ENDED 31ST MARCH, 1890-98 (EXCLUSIVE OF PASTORAL RUNS AND MISCELLANEOUS LEASES AND LICENSES), CLASSIFIED ACCORDING TO SIZE.

Size.	1893-90.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Under 1 acre ..	144	170	214	134	176	236	239	154	103
1 to 50 acres ..	701	531	581	727	739	696	719	588	496
51 to 250 acres ..	757	603	617	1,253	933	757	1,198	709	616
251 to 500 acres ..	260	307	255	264	341	169	232	178	197
501 to 1,000 acres ..	110	173	187	104	150	70	70	84	63
1,001 acres and upwards ..	62	97	76	76	115	40	26	22	64
Totals ..	2,034	1,881	1,953	2,578	2,454	1,988	2,504	1,735	1,539

SECTION XVIII.—LAND FOR SETTLEMENTS.

A FULL description will be given, in a special article belonging to Part III., of the objects and method of the Land for Settlements Acts (1892, 1894, 1896), under which the acquirement by Government is authorised, through purchase from private owners, of properties for subdivision into small farms to meet the want felt of Crown lands for disposal in places where they are specially wanted.

The report of the Chairman of the Board of Land Purchase Commissioners on the transactions for the twelve months ended the 31st March, 1898, states:—

Seventy estates, of a total area of 538,142 acres, were offered during the year. Of that, an area of 129,199 acres was declined, and 44,811 acres not recommended, as being unsuitable for close settlement; 2,743 acres were withdrawn after being offered. An area of 231,470 acres is under negotiation; and twenty-five estates, belonging to fourteen owners, and comprising an aggregate area of 149,138 acres, were recommended for purchase at prices fixed by the Board; but for various reasons some of these were withheld from offer for a time, so that up to the 31st March, offers to purchase had only been made to eight owners, representing 17,278 acres, of whom six accepted, representing 16,743 acres.

The actual outlay in the twelve months in the purchase of land was £147,990, for twelve estates, of a total area of 36,513 acres. The negotiations for the greater part of this land were begun in the previous year, although the actual close of the transactions was in the year under review.

The total purchases completed up to the 31st March, 1898, since the commencement of the land-purchase system, comprise forty-nine estates, of a total area of 154,624 acres, costing £668,531, to which has to be added £37,197 for roading, surveying, and administration—in all, £705,728 of outlay. Since the 31st March two properties have been purchased, which bring the total of areas and cost respectively up to 187,630 acres and £809,833.

The amendment of the Act passed the 22nd December, 1897, by extending its action till the 31st March, 1900, and doubling the annual sum formerly available for purchase of lands as from the 31st March, 1898, has enabled negotiations to be entered on for the acquisition of several large estates offered, that otherwise would have had to be declined at first sight.

The negotiations for two or three desirable estates offered have not been proceeded with, because the prices asked were so much greater than the Board considered settlers could continue—taking one year with another—to pay a rent of 5 per cent. on the capital cost of the land. In these cases it was not considered advisable to recommend taking action under the compulsory powers of the Act.

The purchase of the Hatuma Estate, of 27,000 acres, near Waipukurau, which it was decided to take compulsorily more than twelve months ago, has not yet been accomplished. The delay has been caused by objections as to procedure raised by the owner. But as these have been set aside by the Appeal Court in its decision given on the 19th May, 1898, the further necessary steps towards the acquisition of the estate will now be taken as may be advised.

The Surveyor-General's report to the Hon. the Minister of Lands on the condition and settlement of the lands acquired and handed over to his department under the above-mentioned Acts gives the particulars of the estates offered for selection as follows:—

ESTATES OFFERED FOR SELECTION DURING THE TWELVE MONTHS ENDING 31ST MARCH, 1898.

Land District and Name of Estate.	Area of Estate.		Number of Selections.	Area unselected on 31st March, 1898.			Annual Rental.		
	A.	R. P.		A.	R.	P.	£	s.	d.
Auckland—									
Okauia	5,920	0 0	2	3,463	2 0		19	16	0
Hawke's Bay—									
Pouparae	337	3 4	9				405	8	0
Tomoana	111	3 38	13				135	2	0
Wellington—									
Paparangi	322	3 32	19	85	3 11		194	17	2
Canterbury—									
Horsley Downs ..	3,982	3 35	25				1,072	3	0
Albury	19,539	1 24	76	44	3 0		3,461	12	4
Rural Section 36469, Canterbury (R.S. 1862)	20	0 0	1				3	7	4
Marawiti	2,028	2 33	13				748	15	10
Hekeao	2,254	2 11	9	40	0 0		614	2	0
Otago—									
Makareao Extension ..	2,535	3 0	4				296	15	4
Momona	218	2 36	15				214	8	0
Tokarahi	11,057	2 9	78	19	3 7		4,150	6	2
Southland—									
Otahu	6,044	0 29	3	4,525	3 4		75	14	10
Beaumont	4,322	3 20	2	3,682	1 30		129	1	4
Total	58,637	1 31	263	11,862	0 12		£11,521	9	4

The above figures show the results, so far as those estates are concerned which were thrown open for selection during the year; but, in addition to the figures given, several selections were made in the estates previously acquired, for details of which reference should be made to the accompanying table. The forfeitures for non-compliance with conditions amounted to eighty-seven, but a considerable number of these were reselected by fresh settlers. The arrears of rent on the 31st March amounted to £1,363 3s., which is largely owing to the unprecedentedly dry season that has been experienced, in the Middle Island more particularly. This sum was owing by fifty-seven selectors.

In summarising the reports of the Commissioners on the improvements made, and on the compliance with the conditions of the leases (which are given at length in the annual Report on Lands and Survey), the conclusion must be drawn that a large measure of success has attended the operations of the Land for Settlements Acts so far. On the 31st March last there were 2,252 persons residing on the properties; the houses numbered 653; whilst the improvements effected amounted to £94,789.

The total area within the whole of the estates acquired (154,623 acres) that remained unlet on the 31st March was 15,314 acres.

Total cost of the estates purchased to the 31st March ..	£668,531
Roads, surveys, administration, and preliminary expenses ..	37,197

£705,728

The lands disposed of are let at an annual rental of ..	£33,912
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The miscellaneous leases during the year ..	357
---	-----

The lands unlet (exclusive of roads and reserves) are valued at a rental of ..	1,718
--	-------

£35,987

It will thus be seen that were all the lands that have been offered for selection let, and bringing in rent, the return on the total sum invested would be just a trifle over 5 per cent.; but the rentals on the lands actually let are still bringing in a return on the total sum of £705,728, equal to 4·85 per cent. interest. As, however, the cost of the Rangiatea (£14,014) and Pawaio (£1,823) Estates are included in the above total, neither of which estates had been offered for selection at the 31st March, the cost thereof should be deducted from the total sum of £705,728, which leaves a balance of £689,891. On this latter sum it will be seen that the rents are bringing in a return of 4·96 per cent. The arrears, amounting to £1,363 8s., would reduce the latter percentage slightly.

It is understood that the annual interest payable, calculated as for the 30th June, 1898, on the money borrowed and invested in these estates, is £23,440 9s. 10d., as against a rental of lands actually let for £34,269 17s. 10d.

SECTION XIX.—FINANCE.

SUBSECTION A.—REVENUE AND EXPENDITURE OF THE GENERAL GOVERNMENT.

For the year ended 31st March, 1898, the receipts from all sources amounted to £5,079,230, while the actual expenditure, including £10,000, the purchase-money of the patent and other rights authorised by "The Cyanide Process Gold-extraction Act, 1897," and £300,000 transferred to the Public Works Fund in terms of section 16 of "The Appropriation Act, 1897," was £4,912,372. The excess of receipts over expenditure was therefore £166,858. Adding £354,286, the credit balance at the beginning of the year, increases the excess to £521,144.

The chief heads of revenue and expenditure are shown in the following table:—

REVENUE.		EXPENDITURE.	
	£		£
Balance on 31st March, 1897	...	His Excellency the Governor	4,783
Customs duties	1,935,252	Legislative	41,171
Beer duty	72,179	Ministers' salaries and allowances	8,139
Stamps	780,232	Interest and Sinking Fund charges	1,741,413
Land-tax	267,287	Exchange and commission	20,194
Income-tax	115,210	Pensions and allowances	37,648
Property-tax	10	Railways	849,923
Railways	1,370,572	Public instruction	466,925
Registration and other fees	51,289	Postal and telegraph services	362,993
Marine dues	23,960	Judicial and legal	233,228
Miscellaneous	108,343	Hospitals and charitable institutions	91,496
Territorial revenue	263,296	Defence	91,388
	4,987,690	Subsidies to local bodies	71,227
Other receipts—		Department of Agriculture	54,421
Proceeds of debentures for Sinking Fund accretions	69,600	Lunatic Asylums	53,793
Net recoveries from Government Advances to Settlers' Office	22,000	Valuation Department	37,127
Management Account	...	Customs	34,366
	91,600	Marine (Harbours and Lights)	31,921
		Printing and Stationery	26,650
		Registration of Land and Deeds, Births, Deaths, and Marriages	19,730
		Public Buildings and Domains	13,221
		Miscellaneous expenditure	96,467
		Territorial expenditure	214,388
			4,602,372
		Other expenditure—	
		Paid to Public Works Fund	300,000
		Purchase of cyanide process rights	10,000
		Surplus on March 31, 1898	521,144
			£5,433,516
	£5,433,516		

Ordinary Revenue.

Under the most important heads of ordinary revenue a considerable increase is shown for the year 1897-98 over the figures for 1896-97. Taking these items in order of their magnitude, the advance is shown below :—

Heads of Revenue.	Ordinary Revenue.				Increase or Decrease.	
	1896-97.	Per Cent. of Total.	1897-98.	Per Cent. of Total.	Numerical.	Centesimal.
	£		£		£	Per Cent.
Customs duties ...	1,818,972	40.85	1,935,252	40.97	116,280	6.39
Railways...	1,287,140	28.91	1,370,573	29.01	83,432	6.48
Stamps ...	750,237	16.40	780,232	16.51	29,995	6.85
Land-tax...	272,309	6.11	267,287	5.66	-5,022	-1.84
Income-tax ...	105,504	2.37	115,210	2.44	9,706	9.19
Miscellaneous ...	98,436	2.21	108,353	2.29	9,917	10.17
Beer duty ...	68,787	1.54	72,179	1.53	3,392	4.93
Registration and other fees	50,256	1.13	51,259	1.08	1,033	2.05
Marine dues ...	21,204	0.43	23,960	0.51	2,756	12.99
Ordinary revenue...	4,452,645	100.00	4,724,334	100.00	271,489	6.09

The three great items, Customs, Railways, and Stamps, show a revenue increased at rates from 6.39 to 6.85 per cent. While the population of the colony increased at the rate of 2.09 per cent. during the year, the ordinary revenue advanced at the rate of 6.09, as shown above.

The Customs and excise duties constituted in 1897-98 £42 10s. out of every £100 of ordinary revenue collected; railways, £29; and stamps, £16 10s. The other items are far behind, the land-tax yielding 5.66, and income-tax 2.44 per cent.

Territorial Revenue.

Territorial revenue shows a decline from £272,954 in 1896-97 to £263,296 in 1897-98, or at the rate of 3.54 per cent. In the previous year, 1896-97, the fall was still greater, being 6.42 per cent. In two years this branch of revenue has diminished from £291,673 to £263,296, or an amount of £28,377.

	Territorial Revenue.				Increase or Decrease.	
	1896-97.	Per Cent. of Total.	1897-98.	Per Cent. of Total.	Numerical.	Centesimal.
	£		£		£	Per Cent.
Cash land sales ...	67,060	24.57	66,622	25.30	-447	-0.66
Deferred-payment land sales	42,452	15.55	25,956	9.86	-16,496	-38.86
Pastoral runs, rents, miscellaneous	163,433	59.88	170,718	64.84	7,285	4.46
Territorial revenue	272,954	100.00	263,296	100.00	-9,658	-3.54

By the above table the cash land sales for 1897-98 are shown to supply one-fourth of the whole territorial revenue; while rents and

miscellaneous constitute two-thirds thereof. The latter is the largest item, and is an increasing quantity, but the sum received on account of land sales, whether cash or deferred payment, diminishes.

Ordinary and Territorial Revenue.

The total ordinary and territorial revenue is found to have increased from £4,725,799 in 1896-97 to £4,987,630 in 1897-98, at the rate of 5.5 per cent., or somewhat more than twice the rate of the population:—

		Ordinary. £	Territorial. £	Total Revenue. £
Year 1897-98	..	4,724,334	263,296	4,987,630
“ 1896-97	..	4,452,845	272,954	4,725,799
Increase		(Inc.) 271,489	(Dec.) 9,658	(Inc.) 261,831

After allowing for alteration in system of charging interest and sinking fund, the charges of the public debt in proportion to the ordinary and territorial revenue are found to have fallen from 41.6 per cent. in 1890-91 to 36.2 per cent. in 1896-97, and 34.9 per cent. in 1897-98.

If the sum of £92,578, the amount of territorial revenue received by way of land sales in 1897-98, is deducted from the total revenue, the charges of the public debt will be found to have absorbed 35.57 per cent. of the revenue, reduced by the sum derived from relinquishment of real estate of the Crown.

Ordinary Revenue Expenditure.

The expenditure for 1897-98 (exclusive of expenditure properly belonging to territorial purposes) amounted to £4,387,983, of which the largest item, after the charges of the public debt, £1,741,413, was on account of railways, £849,923. Public instruction cost £466,925, of which £398,636 was for carrying on the Board schools; £16,546 for Native schools; £11,596 for industrial schools; and £24,905 for school buildings. The postal and telegraph services cost £362,992. Under the heading “Judicial and Legal” the total sum expended was £233,228, of which the largest item was the police, £104,214; the next, District and Magistrates’ Courts, £45,491; and, thirdly, prisons, £29,241. Hospitals and charitable institutions cost £91,496, and the lunatic asylums £53,703. Defence required £91,388; the Department of Agriculture £54,421; and the new Valuation Department £37,127.

Territorial Expenditure.

The Lands and Survey Department, £119,920, with the expenditure on mines, £10,898, are the two main items; while there was paid to local bodies £79,350, (£37,133 being “thirds” and “fourths” under the Land Act; and £11,147 for the Greymouth, £5,179 for the New Plymouth, and £25,891 for the Westport Harbour Boards); besides £4,065 paid for management of water-races, and £155 in rates on Crown lands.

Loan Expenditure, 1897-98.

Besides expenditure out of revenue, there was also an expenditure out of the Public Works Fund of £865,543.

EXPENDITURE OUT OF PUBLIC WORKS FUND, 1897-98.

Annual appropriations—		£
Immigration	..	70
Public Works, Departmental	..	9,689
Railways	..	351,600
Roads	..	290,778
Development of goldfields	..	33,117
Purchase of Native lands	..	61,503
Telegraph extension	..	29,384
Public buildings	..	73,585
Lighthouses, harbour-works, and harbour defences	..	5,295
Rates on Native lands	..	157
Contingent defence	..	10,360
Other charges	..	5

Total £865,543

In addition to the foregoing, a further sum of £158,586 was paid in acquiring estates, and expenses connected therewith, under the provisions of the Land for Settlements Act; £16,657 disbursed for interest on debentures, surveys, roads, &c., on the Cheviot Estate; and loans to local bodies, including roads to open up Crown lands, £94,027.

The total amount of loan moneys expended under various heads from the beginning is roughly shown further on in a table dealing with the public debt of the colony.

The expenditure each year since 1884 on services provided for under the Public Works Fund has been :—

Year.	Immigration.	Railways.	Roads.	Development of Goldfields.	Telegraph Extension.	Public Buildings.	Lighthouses, &c.	Other Services.	Totals.
	£	£	£	£	£	£	£	£	£
1884-85...	57,148	663,063	317,043	8,029	25,799	117,361	34,038	114,251	1,336,727
1885-86...	11,675	725,496	335,904	9,032	36,010	86,859	133,975	136,435	1,475,386
1886-87...	12,454	615,265	278,617	7,365	18,952	89,598	148,705	162,228	1,333,484
1887-88...	15,598	403,726	219,619	1,016	22,944	90,529	76,825	135,962	966,159
1888-89...	8,791	272,077	106,440	55	12,047	34,592	47,593	132,311	613,339
1889-90...	807	289,572	84,126	284	16,346	35,473	9,434	46,363	482,464
1890-91...	1,823	180,020	71,289	821	16,292	22,819	2,666	39,026	334,756
1891-92...	817	154,416	101,605	2,257	27,773	34,791	7,347	62,405	391,501
1892-93...	242	220,804	105,506	3,811	29,245	31,101	11,205	60,592	462,506
1893-94...	343	176,304	147,418	5,272	16,127	44,032	6,588	10,713	406,797
1894-95...	101	247,545	61,737*	5,665	19,229	54,190	3,145	9,578	401,410*
1895-96...	Cr. 10	197,105	66,774*	9,345	35,538	76,240	7,409	19,928	412,329*
1896-97...	301	207,231	64,292	10,508	36,791	70,579	11,690	26,683	427,985*
1897-98...	70	351,600	290,777†	33,117	29,384	73,585	5,295	61,715	865,543†

* Exclusive of moneys spent on roads under Lands Improvement, Native Lands Purchase, and Government Loans to Local Bodies Accounts: £103,076 in 1894-95, £162,757 in 1895-96, £173,358 in 1896-97.

† The expenditure on roads under the two first Acts mentioned above (*) is included as part of Public Works Fund; the sum of £18,770 was also spent out of Loans to Local Bodies Account on roads to open up Crown lands, and is excluded as before.

A notable feature in the legislation of the year 1894 was the passing of the Government Advances to Settlers Act, of which a description will be found in Part III. of the Year-book. The Act authorised the raising of three millions sterling, in sums not exceeding a million and a half in each financial year, within two years from the date of the passing of the Act. The Loan Agents in London accordingly called for tenders for a million and a half of 3-per-cent. inscribed stock, to be lodged at the Bank of England on or before the 3rd May, 1895. The average price realised was £94 8s. 9d., applications having been made for £5,960,400, at prices varying from £100 to £90, of which about 33 per cent. of the tenders at £94 8s. were accepted, those above that price being allotted in full. The total cash receivable was £1,416,601 2s. (For fuller particulars of terms and transactions under the system of advances to settlers see article by the Superintendent in the next Part.)

The first meeting of the General Board for the purpose of considering applications for loans was held on the 23rd February, 1895; and up to the 31st March, 1898, the Board had authorised 5,837 advances, amounting to £1,736,205, and declined 1,341 applications for £419,433. The total amount asked for by the 5,837 applications granted in full and partially was £2,028,445; 698 applicants declined the grants offered them, amounting to £330,240; so that the net advances authorised to the 31st March, 1898, numbered 5,139, and amounted to £1,405,965. The securities for the net authorised advances were valued at £3,151,771; and these are being enhanced by the expenditure in improvements of part of the money borrowed, as well as by the periodical repayments of principal.

The liabilities and assets at 31st March, 1898, of the Government Advances to Settlers Office were:—

Dr.	Liabilities.	£	s.	d.	Cr.	Assets.	£	s.	d.
3-per-cent. Loan, redeemable					Investment Account—				
1st April, 1915...		1,600,000	0	0	Advances on				
Consolidated Fund advances		21,500	0	0	mortgages	£1,857,040	0	0	
Suspense Account		1,079	5	2	Less repay-				
Accrued interest payable		91	10	6	ments	...	99,122	4	6
							1,257,917	15	6
					Temporary investments, Go-				
					vernment security	...	4,830	17	0
					Sinking Fund Investment Ac-				
					count with Public Trustee		98,401	9	9
					Mortgage instalments receiv-				
					able, overdue	...	721	5	8
					Interest receivable, overdue	...	3,221	0	1
					accrued	...	15,768	11	0
					Cash in hand and in bank	...	34,230	8	5
					Loan-flotation				
					charges	...	£105,897	7	5
					Profit and Loss				
					Account	...	5,276	0	10
							111,173	8	3
							£1,526,270	15	6
		£1,526,270	15	8					

The number of applications received to the 31st March, 1898, was 7,433, for an aggregate amount of £2,512,648. Sixty-three per

cent. of the amount applied for was for the purpose of paying off existing mortgages at rates of interest higher than 5 per cent.

The number of applications for fixed loans has not been large, the amount being less than $1\frac{1}{2}$ per cent. of the total advances.

New Zealand Consols.

Another important financial Act, termed the New Zealand Consols Act, was also passed in 1894, with the intention of providing further means of investment for the savings of persons resident in the colony. Steady progress is being made in this class of deposits, showing that the public are recognising the system as a means of safe and profitable investment of their savings. It is singular that deposits of moneys belonging to trust funds or minors are not more freely made. It is thought that the advantage of such an investment at a fair rate of interest and of a permanent character is not widely enough known.

Up to the 31st March, 1898, deposits amounting to £356,185 have been received in sums ranging from £5 to £150,000.

The system of making deposits in New Zealand Consols is fully described in Part III.

Aid to Public Works and Land Settlement.

"The Aid to Public Works and Land Settlement Act, 1896," empowered the Colonial Treasurer to raise £1,000,000: in aid of the Public Works Fund to the extent of £500,000, and the Lands Improvement Account and the Native Lands Purchase Account, £250,000 each. The sum of £750,000, bearing interest at $3\frac{1}{2}$ per cent. per annum, has been raised locally at par (£500,000 being issued with an alternative currency of ten or twenty-five years); the balance of £250,000, together with a further sum of £250,000 authorised by the amendment Act of last year, will be placed upon the London market in the form of 3-per-cent. inscribed stock; in the meantime £225,000 has been raised by the issue of short-dated debentures.

The Aid to Public Works and Land Settlement Act Amendment Act, passed in 1897, authorised the raising of the additional sum of £250,000 to be applied for the purpose of procuring £200,000 for further rolling-stock for railways, and for the repair of damages to lines by floods or otherwise; £25,000 for erection and repair of public-school buildings, and another sum of £25,000 for purposes of building and equipment of technical schools.

SECTION XIX.—FINANCE—*continued.*

SUBSECTION B.—PUBLIC DEBT.

THE gross public debt of the colony on the 31st March, 1898, was £44,963,424, an increase of £596,806 on the amount owing at the end of the preceding financial year. A detailed statement of particulars relative to the various loans is supplied.

The total increase by the issue of debentures and conversion operations during the year was £608,240. On the other hand, debentures amounting to £11,434 were redeemed, leaving, as stated before, a net increase to the gross public debt of £596,806.

The following details show at a glance the increase in the public debt:—

	£		£	£
Debentures issued for—		Debentures redeemed—		
Aid to public works and land settlement	225,000	Consolidated Stock Act, 1894	6,934	
Loans to local bodies	111,400	Lytelton and Christchurch Railway Loan Ordinance, 1890	4,500	11,434
Purchase of land for settlement	135,000	Gross debt on 31st March, 1898		44,963,424
Sinking-fund accretions	69,600			
Inscription—				
New Zealand Consols	58,780			
Conversion operations... ..	8,460			
	608,240			
Gross debt, 31st March, 1897	44,366,018			
	<u>£44,974,858</u>			<u>£44,974,858</u>

The following table of the public debt of New Zealand states the debentures and stock in circulation on 31st March, 1898, under the several Loan Acts or Ordinances of the Colonial and Provincial Governments, the dates when redeemable, the sinking funds accrued in respect of the same, and the annual charge thereon for interest and sinking fund:—

PUBLIC DEBT ON 31ST MARCH, 1898.

Loans.	Debtures and Stock.		Amount of Sinking Funds accrued.	Net Indebtedness.	Annual Charge.						Total.
	Amount in Circulation.	When redeemable.			Interest.		Sinking Fund.		Rate.	Amount.	
					Rate.	Amount.	Rate.	Amount.			
Under Acts of the Colonial Government—	£		£	£	p. c.	£ s. d.	p. c.	£ s. d.	£ s. d.	£ s. d.	
"New Zealand Loan Act, 1883"	271,000	15 July, 1914 ...	112,292	158,708	5	13,550 0 0	1	2,710 0 0		16,260 0 0	
"Consolidated Loan Act, 1867"	495,300	{ £482,300 by annual drawings £13,000 15 April, 1913 }	...	{ 482,300 }	5	24,115 0 0	...	...		{ 24,635 0 0 }	
"Defence and other Purposes Loan Act, 1870"	100,000	{ £25,000 1 July, 1910 £75,000 15 April, 1913 }	...	{ 95,000 }	4½	520 0 0	...	...		4,125 0 0	
"Immigration and Public Works Loan Act, 1870"	1,391,000	{ £383,100 15 April, 1913 * £1,000,000 1 June, 1907 £27,900 15 April, 1913 }	522,096	{ 363,100 477,904 27,900 }	4 4 4½	14,524 0 0 40,000 0 0 1,255 10 0	2½	24,000 0 0		{ 79,779 10 0 }	
"General Purposes Loan Act, 1873"	85,500	{ £18,500 15 Oct., 1913 £12,300 15 May, 1914 £54,700 28 Nov., 1914 }	...	{ 18,500 12,300 54,700 }	4 4 5	740 0 0 492 0 0 2,735 0 0	...	...		3,967 0 0	
"New Zealand Consolidated Stock Act, 1877"	37,382,481	{ £29,150,302 1 Nov., 1929 £8,161,167 1 Jan., 1940 £2,081,012 1 April, 1945 }	...	{ 29,150,302 6,161,167 2,081,012 }	4 3½ 3	1,165,012 1 7 215,640 16 11 62,430 7 2	...	...		{ 1,444,083 5 8 }	
"New Zealand Consolidated Stock Act, 1881"—Colonial Issue...	2,120,560	{ £40,000 22 May, 1898 £1,190,166 28 May, 1898 £253,200 28 May, 1898 £628,200 28 May, 1898 }	...	{ 1,235,166 253,200 628,200 }	4½ 4 3½	55,762 9 4 21,987 0 0	...	...		87,877 9 4	
"District Railways Purchasing Act, 1885"	188,600	{ £40,000 1 July, 1909 £101,600 1 April, 1905 £47,000 1 April, 1899 }	...	{ 40,000 101,600 47,000 }	6 4 5	2,400 0 0 4,064 0 0 2,350 0 0	...	...		8,814 0 0	
"District Railways Purchasing Act Amendment Act, 1886"	35,000	28 May, 1898 ...	...	35,000	3½	1,925 0 0	...	...		1,225 0 0	
Carried forward	42,079,447	...	634,388	41,445,059	...	1,644,056 5 0	...	26,710 0 0		1,670,766 5 0	

* Authorised and guaranteed by Act of Imperial Parliament. Only £200,000 of the amount has actually been issued to the public; the unsold debentures are available for the purpose of obtaining temporary advances from time to time.

PUBLIC DEBT ON 31ST MARCH, 1898—continued.

Loans.	Debtures and Stock.		Amount of Sinking Funds accrued.	Net Indebtedness.	Annual Charge.				
	Amount in Circulation.	When redeemable.			Interest.		Sinking Fund.		Total.
					Rate.	Amount.	Rate.	Amount.	
Brought forward ...	£ 42,079,447	...	£ 634,388	£ 41,445,059	Per cent. ...	s. d. 5 0	Per cent. ...	s. d. 0 0	£ 1,870,766 5 0
Under Acts of the Colonial Government—continued.									
“Government Loans to Local Bodies Act, 1886”	253,200	31 December, 1900	135,320	117,871	3½	8,862 0 0	1½	17,468 10 0	26,344 10 0
“Naval and Military Settlers’ and Volunteers’ Land Act, 1892”	27,226	31 October, 1899	...	27,226	4½	1,225 3 5	...	...	1,225 3 5
“Native Land Purchases Act, 1892”	140,700	31 October, 1899	...	{ 140,000 9,700 }	4½	6,300 0 0	...	...	6,785 0 0
“Land for Settlements Act, 1892”	45,276	31 October, 1899	...	45,276	4½	2,037 8 5	...	...	2,037 8 5
“Land for Settlements Act, 1894”	590,000	31 October, 1899	...	{ 134,100 455,900 }	4	5,364 0 0	...	...	21,323 13 0
“Lands Improvement and Native Lands Acquisition Act, 1894”	400,000	30 September, 1908	...	{ 283,000 117,000 }	4	11,320 0 0	...	...	15,415 0 0
“New Zealand Consols Act, 1894”	356,185	1 February, 1910	...	356,185	3½	12,466 9 6	...	...	12,466 9 6
“Aid to Public Works and Land Settlement Act, 1896”	975,000	{ £250,000 1 Feb., 1902 £300,000 15 Aug., 1921 £100,000 21 Feb., 1899 £125,000 3 Mar., 1899 }	...	{ 750,000 100,000 125,000 }	3½	26,250 0 0	...	...	33,250 0 0
Carried forward ...	44,876,124	...	769,717	44,106,407	...	1,745,420 19 4	...	44,192 10 0	1,789,613 9 4

* Sinking Fund payable on £1,163,500, the total amount borrowed under “The Government Loans to Local Bodies Act, 1886,” to 31st March, 1898; the Land Assurance Fund is also charged with half per cent. as a contribution towards the Sinking Fund.

PUBLIC DEBT ON 31st MARCH, 1898—continued.

Loans.	Debentures and Stock.		Amount of Sinking Funds accrued.	Not Indebtedness.	Annual Charge.			
					Interest.		Sinking Fund.	
	Amount Circulation.	When redeemable.			Rate.	Amount.	Rate.	Amount.
Brought forward ...	£ 44,876,124	...	769,717	£ 44,106,407	Pc. ...	£ s. d. 1,745,420 19 4	Pc. ...	£ s. d. 44,103 10 0
Under Acts or Ordinances of the late Provincial Government— "Canterbury Loan Ordinance, 1862."	16,000 { £2,800 2 Jan., 1915 £12,200 2 July, 1916 }		10,383	5,618	6	950 0 0	1	100 0 0
"Otago Loan Ordinance, 1862."	71,300	1 July, 1898	101,804	Gr. 30,604	6	4,278 0 0	...	...
Totals ...	44,963,424	...	881,903	44,081,521	...	1,750,653 19 4	...	44,352 10 0

Treasury bills amounting to £730,000, issued in anticipation of revenue, are not included.

* Further contributions of sinking fund are not required.

PUBLIC DEBT.

Interest and Sinking Fund.

Of the total amount of outstanding public debt at the end of March, 1898—viz., £44,963,424—more than thirty-one millions sterling bore interest at the rate of 4 per cent., and over eight millions sterling at 3½ per cent. The following are the rates of interest payable on the complete public debt:—

Rates of Interest.					Amount at each Rate.
					£
6 per cent.	..	..	..	..	127,800
5 per cent.	..	..	..	..	864,700
4½ per cent.	..	..	..	..	1,504,568
4 per cent.	..	..	..	..	31,404,102
3½ per cent.	..	..	..	..	8,756,742
3¼ per cent.	..	..	..	..	100,000
3 per cent.	..	..	..	..	2,206,012
Total					£44,963,424

The total amount of interest payable to bondholders on the full amount of the public debt as quoted above is £1,750,659, which gives an average rate of £3 17s. 10d. per £100. On the total public debt outstanding on the 31st March, 1891, the average interest charge was £4 10s. 3d. per £100. During the period (1891-98), therefore, the average rate is found to have declined. The declared values of certain principal articles of colonial produce exported show, during the same period, similarly a decline; the average value of wool per pound having decreased 19·5 per cent., and of frozen meat per hundredweight, 11·7 per cent.

The actual payments during four years for interest and sinking fund are shown hereunder:—

Amounts actually paid for Interest and Sinking Fund.					
Year ended 31st March.	Public Debt.			Treasury Bills.	Total.
	Interest.	Sinking Fund.	Total.	Interest.	
	£	£	£	£	£
1895 ..	1,619,925	57,979	1,677,904	38,985	1,716,889
1896 ..	1,602,933	41,183	1,644,116	39,659	1,683,775
1897 ..	1,630,577	41,858	1,672,435	37,034	1,709,469
1898 ..	1,668,697	43,380	1,712,077	29,336	1,741,413

The securities in which the sinking funds were held, as on the 31st March, 1898, are specified in the statement following:—

STATEMENT of the SECURITIES in which the SINKING FUNDS of the several
LOANS were invested on the 31st March, 1898.

Investments in—		£	s.	d.
New Zealand 5-per-cent. Debentures	.. ..	20,395	0	0
" 4½-per-cent. Debentures	.. ..	34,240	0	0
" 4-per-cent. Debentures	.. ..	4,910	0	0
" 3½-per-cent. Debentures	.. ..	5,030	0	0
" 4-per-cent. Inscribed Stock	.. ..	110,999	17	10
" 3½-per-cent. Inscribed Stock	.. ..	1,291	9	3
Treasury Bills, 3½-per-cent.	.. ..	21,568	0	0
County of Tauranga 5-per-cent. Debentures	.. ..	1,320	0	0
County of Waitemata 6-per-cent. Debentures	.. ..	580	0	0
City of Dunedin 7-per-cent. Mortgage Debentures	.. ..	3,800	0	0
Borough of Brunner 6-per-cent. Debentures	.. ..	820	0	0
Borough of Hokitika 6-per-cent. Debentures	.. ..	2,080	0	0
Borough of Palmerston North 5-per-cent. Debentures	.. ..	1,100	0	0
Borough of Patea 6-per-cent. Debentures	.. ..	5,000	0	0
Borough of Thames 5½-per-cent. Debentures	.. ..	2,200	0	0
Borough of Tauranga 5-per-cent. Debentures	.. ..	2,200	0	0
Westport Harbour Board 5-per-cent. Debentures	.. ..	7,650	0	0
Wellington and Manawatu Railway Company 5-per-cent. Debentures	.. ..	17,505	0	0
Waimakariri Ashley Water-supply 5-per-cent. Debentures	.. ..	970	0	0
Canada 3-per-cent. Stock	.. ..	32,670	17	3
Canada 3½-per-cent. Stock	.. ..	34,022	11	8
Canada 4-per-cent. Stock	.. ..	60,000	0	0
Canada 4-per-cent. Debentures	.. ..	18,200	0	0
New South Wales 3-per-cent. Stock	.. ..	19,864	14	11
New South Wales 3½-per-cent. Stock	.. ..	83,393	15	8
New South Wales 4-per-cent. Stock	.. ..	5,486	6	7
New South Wales 4-per-cent. Debentures	.. ..	20,800	0	0
South Australia 3-per-cent. Stock	.. ..	39,593	15	4
South Australia 3½-per-cent. Stock	.. ..	37,216	16	0
South Australia 4-per-cent. Stock	.. ..	4,851	0	5
South Australia 4-per-cent. Debentures	.. ..	24,700	0	0
Victoria 3½-per-cent. Stock	.. ..	75,062	0	3
Victoria 4-per-cent. Stock	.. ..	43,233	17	4
Victoria 4-per-cent. Debentures	.. ..	23,000	0	0
Mortgages	.. ..	112,100	0	0
		877,355	2	6
Cash balance on 31st March, 1898	.. ..	4,547	11	1
Total.. ..	.. ..	£881,902	13	7

Net Indebtedness : Comparison with past Years.

The net public debt, after deducting the accrued sinking fund (£881,903), was on 31st March, 1898, £44,081,521, an increase of £529,197 during the year. The net indebtedness per head of population for 1897-98 is, however, less than in 1896-97 by 8s. 10d. In March, 1890, it stood at £60 5s. 3d.; in 1891, £59 11s. 10d.; in 1892, £59 2s.; in 1893, £58 2s. 7d.; in 1894, £57 8s. 10d.; in 1895, £57 9s. 9d.; in 1896, £60 2s. 4d.; in 1897, £60 13s. 9d.; and in 1898, £60 4s. 11d.

Years ended 31st March.	Amount of Debentures and Stock in Circulation.	Gross In- debtedness per Head of European Population.	Amount of Sinking Fund accrued.	Net In- debtedness.	Net In- debtedness per Head of European Population.
	£	£ s. d.	£	£	£ s. d.
1890	38,667,950	62 10 1	1,386,185	37,281,765	60 5 3
1891	38,830,350	61 19 4	1,487,042	37,343,308	59 11 10
1892	38,713,068	60 14 8	1,037,862	37,675,206	59 2 0
1893	39,257,840	59 16 7	1,113,770	38,144,070	58 2 7
1894	39,826,415	58 17 0	951,924	38,874,491	57 8 10
1895	40,386,964	58 11 6	751,932	39,635,032	57 9 9
1896	43,050,780	61 4 5	778,891	42,271,889	60 2 4
1897	44,366,618	61 16 5	814,294	43,552,324	60 13 9
1898	44,963,424	61 9 0	881,903	44,081,521	60 4 11

The debt of the colony as above stated does not include the unpaid loans raised by the several local bodies, amounting at the end of March, 1897, to £6,793,398, of which sum £5,456,290 was raised outside the colony. These are referred to in ^{2.9} dealing with the finance of local bodies.

Prices of New Zealand Stock.

The highest and lowest London prices for the New Zealand 4, 3½, and 3-per-cent. stock, taken over a range of ten years, are quoted:—

QUOTATIONS, NEW ZEALAND STOCK.

Year	4 per Cents.		3½ per Cents.		3 per Cents.	
	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.
1888	104½	96½	..	..	..	..
1889	109½	99½	..	..	..	..
1890	109½	102½	98½	93½	..	..
1891	107½	100	98½	91½	..	..
1892	106½	100	98	91½	..	..
1893	107½	97	97½	90	..	..
1894	109½	105½	103½	96½	..	..
1895	113½	105½	107½	100	95½	91
1896	118½	106½	110½	101½	103½	90
1897	117	112½	111	104½	102	99½

Public Debt of Australasian Colonies, &c.

The following table shows the debt of each of the Australasian Colonies:—

Colony.	Amount of Debt.	Accrued Sinking Fund.	Net Indebtedness.	Rate of Net Indebtedness per Head of Population at End of Year.
	£	£	£	£ s. d.
Queensland (Dec., 1896)	31,873,934	..	31,873,934	68 6 1
New South Wales (June, 1897)	61,074,498	..	61,074,498	46 11 5
Victoria (Dec., 1896)	46,500,909	..	46,500,909	39 7 0
South Australia (Dec., 1896)	24,186,425	200,828	23,985,597	68 3 6½
Western Australia (June, 1897)	7,810,815	205,637	7,105,178	45 0 5
Tasmania (Dec., 1896)	8,251,778	128,662	8,123,116	48 18 0
New Zealand (Mar., 1898)	44,963,424	881,903	44,081,521	60 4 11

The amount of net indebtedness per head of population in December, 1896, in Queensland and South Australia was thus greater than that for New Zealand in March, 1898.

The public debt of England, nearly £640,000,000, is £16 per head, and that of the United States only £263,000,000, or £3 10s. per head of the population. (*Statist* of 23rd April, 1898.)

Public Works in New Zealand.

The burden of a public debt depends greatly on the measure in which it is expended on reproductive works, and on the degree of prosperity enjoyed by the people. The generally rugged character of this country, and the natural difficulties appertaining to the sites of many of the towns, soon necessitated a large outlay on roads and public works. The need was fully recognised, and to some extent met, by the Provincial Governments, which have justly received great credit for their far-seeing and liberal exertions. A great deal of road-making, often of a very costly character, was accomplished, harbour and other improvements begun, and immigration encouraged. Some railways were made in Canterbury, Otago, and Southland. The City of Christchurch and the Canterbury Plains were connected with the Port of Lyttelton by a railway, which required the construction of a long and very costly tunnel through the intervening range of hills. In Otago, private enterprise, backed by the guarantee of the Provincial Government, built a railway from Dunedin to Port Chalmers, and some miles of line were made in Southland from the town of Invercargill into the interior; but no general and comprehensive scheme of public works could be carried out by the separate exertions of the Provincial Governments. In 1870, therefore, the General Government brought forward its public-works and immigration policy, by which it was proposed to raise a loan of ten millions for the construction of main trunk railways, roads, and other public works of importance to the colony as a whole, as well as for the promotion of immigration on a large scale, the expenditure to be spread over a period of ten years. This policy was accepted by the Legislature, and embodied in "The Immigration and Public Works Act, 1870."

The demands for local railways and other works soon caused the original proposals to be exceeded, and entailed an expenditure at a much more rapid rate and to a far greater amount than was originally contemplated. Although many of the works undertaken have been directly unremunerative, yet the effect of the policy, as a whole, has been largely to develop the settlement of the country, and to increase enormously the value of landed property; land, in parts which before the construction of railways was valued at from £1 to £2 per acre, having been subsequently sold at prices varying from £10 to £20 per acre. Moreover, the railway and telegraph-lines yield a revenue which covers a large portion of the interest on their cost after paying working-expenses.

Purposes of Money composing Public Debt.

A statement is supplied, made up from a table given in the Financial Statement of 1897, to which the amount raised during the past year is added, showing (though admittedly not with exactness) the purposes for which the money was raised or voted which now forms the public debt of the colony; and it gives the position (1) as in 1870, before the large expenditure under the public-works policy began; (2) as in March, 1891, prior to the passing of the Advances to Settlers Act; and (3) as in March, 1898:—

PUBLIC DEBT OF NEW ZEALAND, 1870-1891-1898, SHOWING APPROXIMATELY THE AMOUNTS RAISED OR VOTED UNDER VARIOUS HEADS, ARRANGED IN FOUR CLASSES.

	On 30th June, 1870. £	On 31st March, 1891. £	On 31st March, 1898. £
(a.) Railways	350,000	14,580,000	15,014,500*
Lands improvement (roads and bridges) .. .. .	.. .. .	3,619,000	4,056,500
Public works and buildings	1,487,000	3,661,000	3,686,000
Land-purchases	306,000	1,546,000	3,043,000
Immigration	314,000	2,459,000	2,459,000
Maori war	2,357,000	2,357,000	2,357,000
Defence .. .. .	.. .. .	1,638,000	1,638,000
Telegraphs	139,000	769,000	769,000
Goldfields and coal-mines .. .. .	.. .. .	571,000	721,000
Lighthouses and harbours	47,000	484,000	484,000
(b.) Advances to settlers .. .. .	.. .. .	.. .. .	1,500,000
Loans to local bodies .. .. .	.. .. .	325,000	1,165,500
Bank of New Zealand preferred shares .. .. .	.. .. .	.. .. .	500,000
New Zealand Consols deposits .. .. .	.. .. .	.. .. .	356,000
(c.) Deficiencies in revenue .. .. .	.. .. .	1,982,000	1,982,000
Charges and expenses of raising loans	583,000	1,637,000	1,637,000
Provincial liabilities .. .. .	.. .. .	786,000	786,000
(d.) Miscellaneous	1,907,516	2,416,350	2,808,924
Total public debt	7,490,516	38,890,350	44,963,424

It will be found that on the 31st March, 1898, out of a total debt of £44,963,424 the amounts allocated for services formed approximately the following proportions of the whole:—

For Railways	33.39
“ Lands improvement (roads and bridges)	9.02
“ Public works and buildings	8.20
“ Land-purchases	6.77
“ Immigration	5.47
“ Maori war	5.24
“ Defence	3.65
“ Telegraphs	1.71
“ Goldfields and coal-mines	1.60
“ Lighthouses and harbours	1.07

* NOTE.—Only a portion of expenditure of old Provincial Governments on railways became public debt of the colony. The total expenditure on railways (Provincial and General Government), to 31st March, 1898, was £16,708,789, which includes £1,104,281 paid by the Provincial Governments, of which £82,259 was for the Dunedin and Port Chalmers line.

The total sum is divided into four classes in the table, of which (*a.*) is composed of the various services above referred to, and the total of which forms 76·12 per cent. of the whole debt in 1898. Class (*b.*) consists of moneys devoted to what may be termed investments, being 7·83 per cent. of the total; (*c.*) moneys paid away in charges and expenses of raising loans, also to meet deficiencies of revenue, besides old provincial liabilities, 9·80 per cent.; and (*d.*), an amount of over two millions and a half sterling, set down as miscellaneous, and forming 6·25 per cent. of the debt.

The figures given as to railways do not include all the sums spent by the Provincial Governments, as explained in the note to the table, nor do the figures in some other items agree with those given elsewhere, made up from tables showing the expenditure out of the Public Works Fund.

The expenditure on railway-works has been kept within very narrow limits during the last few years. The railway expenditure during each of five quinquennial periods and one triennial period since the initiation of the public-works policy has been as follows:—

1st July, 1870, to 30th June, 1875	£ 3,575,362
1st July, 1875, to 31st March, 1880	4,919,712
1st April, 1880, to 31st March, 1885	3,120,680
1st April, 1885, to 31st March, 1890	2,308,319
1st April, 1890, to 31st March, 1895	978,498
1st April, 1895, to 31st March, 1898	755,936
Total	<u>15,658,507</u>

This great diminution in expenditure has necessarily involved proceeding with the railways at a very much slower rate, and New Zealand's expenditure on railways is now the lowest per head of the population of any of the Australasian Colonies. The following table shows the cost of railway-works, the mileage, the average cost per mile, the population, and the cost per head of the population in the several colonies referred to:—

Colonies.	Cost of Construction of Open Lines.	No. of Miles of Line open.	Average Cost per Mile.	Population	Cost per Head of Population	Year ended
	£		£		£ s. d.	
Queensland ..	17,077,733	2,430	7,028	472,179	36 3	4 31st Dec., 1896.
South Australia ..	12,573,893	1,722	7,302	355,286	35 7 10	31st Dec., 1896.
Victoria ..	38,102,855	3,122	12,205	1,174,888	32 8	7 30th June, 1896.
Western Australia ..	4,359,241	970	4,494	137,946	31 12	0 30th June, 1897.
New South Wales ..	37,369,205	2,639	14,160	1,297,640	28 15 11	31st Dec., 1896.
New Zealand ..	15,577,392	2,018	7,719	717,649	21 14	1 31st Mar., 1897.
Tasmania ..	3,524,051	420	8,391	166,113	21 4	4 31st Dec., 1896.

SECTION XIX.—FINANCE—*continued*.

SUBSECTION C.—TAXATION.

THE direct taxation prior to 1892 consisted of a property-tax of 1d. in the pound on all assessed real and personal property (with an exemption of £500), and the stamp duties; but in 1891 a Land and Income Assessment Act was passed repealing the property-tax. A full description of the system of the land- and income-tax will be given in a special article in Part III. of this work. The leading features only are briefly stated here.

The Assessment Act of 1891 provides for an ordinary land-tax on the actual value of land, and an owner is allowed to deduct any amount owing by him secured on a registered mortgage. Under the original Act the deduction for improvements might not exceed £3,000; but, by the Amendment Act of 1893, the value of all improvements whatsoever is exempted from liability to land-tax. Besides this, an exemption of £500 is allowed when the balance, after making deductions as above stated, does not exceed £1,500; and above that a smaller exemption is granted, but ceases when the balance amounts to £2,500. Mortgages are subject to the land-tax. The revenue from the ordinary land-tax is, in round numbers, about £196,000 per annum. The rate of ordinary land-tax for 1897-98 was 1d. in the pound. Occupied Native land is taxed $\frac{1}{2}$ d. in the pound on the unimproved value.

In addition to the ordinary land-tax, there is a graduated land-tax which commences when the unimproved value is £5,000. For the graduated land-tax, the present value of all improvements is deducted; but mortgages are not deducted. The Act of 1893, while reducing the ordinary taxation on land by exempting all improvements, increased the graduated tax, and the revised rates are now one-eighth of a penny in the pound sterling when the value is £5,000 and is less than £10,000, from which the rate increases with the value of the property by further steps of an eighth of a penny until the maximum of 2d. in the pound is reached, payable when the value is £210,000, or exceeds that sum.

This graduated tax yields, in round numbers, £73,000 per annum, which is not included in the sum of £196,000 given above. Twenty per cent. additional tax is levied in case of persons who have been absent from the colony for three years or more prior to the passing of the yearly taxing Act. This amounts to about £1,000, and is included in the £73,000 shown above.

Income-tax is levied on all incomes above £300, and from taxable incomes a deduction of £300 is made. The rate of income-tax for 1897-98 was 6d. in the pound on the first taxable £1,000, and 1s. in the pound on taxable incomes over £1,000.

Companies pay 1s. in the pound, and are not allowed the £300 exemption. The Act of 1893 further disallowed the £300 exemption in the case of persons not domiciled in New Zealand.

The indirect taxation is made up of Customs duties, and excise duty on beer made in the colony.

The following statement shows the total amount raised by the General Government taxation in 1885, 1890, and the last three financial years ending 31st March :—

			Amount of Revenue raised by Taxation.	Amount per Head of Popula- tion (excluding Maoris).		
			£	£	s.	d.
1885	..	..	2,016,730	..	3	10 10
1890	..	..	2,173,985	..	3	10 0
1895-96	..	..	2,335,761	..	3	7 1
1896-97	..	..	2,521,911	..	3	11 0
1897-98	..	..	2,678,576	..	3	13 11

The average annual amount of revenue raised by taxation during the nine years, 1882 to 1890 inclusive, was £3 8s. 11d. per head of population, excluding Maoris.

It may be well to call attention to the fact that a rise in the rate of taxation per head of population may indicate (outside the question of increasing the rate of any particular tax levied) a satisfactory condition of business, as showing activity. In regard to the Customs, notwithstanding modifications of the tariff in 1895, the value of the imports for 1897-98 was greater than for 1896-97, which would seem to show greater purchasing power than before, and that profits of trade would still allow of a large amount of duty being paid. The quantity of stocks in hand at the beginning and end of the two years, and any disturbance in prices during the period, may modify the above conclusions.

As the Maoris contribute somewhat to the Customs revenue, an allowance should be made on that account to ascertain more correctly the amount of taxation per head of the rest of the people. By including Maoris the Customs and excise duties per head of the rest of the population would be reduced by 2s. 10d. for the year 1897-98. If this amount be deducted from the taxation per head given for that year, the rate would be reduced from £3 13s. 11d. to £3 11s. 1d. This latter rate may fairly be used for comparison with the rates in the neighbouring colonies.

Of the total amount of taxation stated for the year 1897-98, the indirect taxation, *i.e.*, Customs and excise duties, amounted to £2,007,431. while land- and income-tax, with stamps for taxation, yielded £671,145, which constitutes direct taxation. So that the colony still raises 75 per cent. of its revenue from taxation by means of the indirect method.

The various local bodies levied taxation during the year ended 31st March, 1897, to the amount of £692,274, or 19s. 6d. per head of European population. Of the total sum, £426,991 was raised by general rates, £171,535 by special and separate rates, £75,752 by licenses, and £17,996 by other taxes.

Taxation in Australasian Colonies.

The following were the rates of General Government taxation per head in the Australasian Colonies in 1896, specifying the proportions derived from Customs and other taxes:—

Colonies.	Rate of Taxation per Head of Mean Population.			Proportion of Taxation from Customs Duties.	Ratio of Taxation by Customs to Value of Imports.
	Customs.	Other Taxes.	Total.		
	£ s. d.	£ s. d.	£ s. d.	Per Cent.	Per Cent.
Queensland ..	2 14 4	0 12 9	3 7 1	81·03	23·33
New South Wales	0 19 9	0 18 2	1 17 11	52·10	6·23
Victoria ..	1 9 5	0 16 3	2 5 8	64·42	11·91
South Australia	1 10 10	0 16 8	2 7 6	64·92	7·58
Western Australia	7 14 6	0 16 7	8 11 1	90·32	16·74
Tasmania ..	2 0 3	0 16 11	2 17 2	70·44	27·59
New Zealand ..	2 11 8	0 19 9	3 11 0	72·13	25·49

SECTION XX.—AGRICULTURE.

UNTIL 1895 the agricultural statistics were collected and compiled by the Registrar-General, under authority of "The Census Act, 1877," annually in the month of February, except in census years, when the collection was made with the enumeration of the people. Under this Act statistics of the acreage in grass and in all kinds of cultivation were formerly taken in February; and, at the same time, the estimated yields of all the principal crops were obtained from the farmers themselves.

By the Agricultural and Pastoral Statistics Act, passed in 1895, the duty of collecting the returns devolved upon the Department of Agriculture. The plan adopted under the Act of 1895 is similar to that used in the United Kingdom, the account of land laid down in crop being taken much earlier than formerly, while estimates of produce are made after the results of threshing are known.

Statistics of the land in cultivation were accordingly taken in November, 1897, and an interim return of the compiled results was published in detail in the *New Zealand Gazette* of the 27th January, 1898, while the corrected acreages under each description of crop were made public on the 3rd May following. A summary of the particulars then given is shown in the accompanying tables, with the finally corrected statements of yield of the principal crops; but, in comparing these figures with the results obtained in former years, it must be remembered that, under the new Act, statistics of the acreage and crops of land held and cultivated by Maoris are included; whereas previously information about the farming carried on by Maoris was obtained only when a census of the Native race was taken.

A deduction has been made from the acreages under each kind of grain as first published, so as to counterbalance losses on account of the dry weather which prevailed prior to harvest and after the returns were collected.

ACREAGE AND ACTUAL YIELD IN PRINCIPAL CORN-CROPS, 1898.

District.	WHEAT.			OATS.			BARLEY.			MAIZE.*	
	Acres.	Yield per Acre in Bushels.	Total Bushels.	Acres.	Yield per Acre in Bushels.	Total Bushels.	Acres.	Yield per Acre in Bushels.	Total Bushels.	Acres.	Acres.
Auckland ..	7,413	20.49	151,935	5,602	21.66	121,354	1,420	26.89	37,475	13,079	
Taranaki ..	2,585	39.24	101,446	5,284	46.41	245,247	816	46.87	38,255	439	
Hawke's Bay ..	379	18.59	18,204	4,312	30.28	130,602	1,951	34.73	67,777	1,043	
Wellington ..	13,142	25.25	331,860	19,705	28.68	565,349	531	35.22	18,706	241	
Marlborough ..	6,000	24.72	148,380	3,227	26.88	85,135	3,374	28.67	96,737	..	
Nelson ..	4,245	25.01	106,193	4,490	24.26	108,967	3,594	19.28	69,300	18	
Westland ..	..	..	..	..	..	..	..	..	..	..	
Canterbury ..	200,992	15.10	3,085,404	115,253	20.00	2,312,020	10,298	18.85	189,066	17	
Otago ..	80,445	22.08	1,776,595	196,946	31.32	6,169,717	7,996	24.26	192,558	..	
Totals ..	315,801	17.95	5,670,017	854,819	27.44	9,738,391	29,920	23.72	709,874	14,837	

* No account taken of produce of maize.

NUMBER OF ACRES UNDER CULTIVATION IN EACH PROVINCIAL DISTRICT, 1898.

Provincial Districts	In Grass or Clover sown after land ploughed.	In Grass, surface sown; land not ploughed.	In Hay, included in either or both of the previous Columns.	In Bare Fallow.	In Grain-crops (for threshing only).	In Green Crops.	In Orchard or Vineyard.	Total in Grass, Crop, and Fallow.	In Plantations of Forest-trees.	Tussock or Native Grass, and unimproved.
Auckland ..	490,079	1,040,456	12,555	8,953	27,778	73,445	2,662	1,652,760	13,590	3,027,432
Taranaki ..	123,736	512,232	5,926	390	9,463	12,381	851	659,771	1,019	825,126
Hawke's Bay ..	363,171	1,252,402	5,142	3,118	8,472	26,817	1,015	1,656,084	3,954	1,619,946
Wellington ..	246,213	1,906,825	11,118	3,011	34,728	52,866	2,129	2,249,541	3,830	1,422,726
Marlborough ..	81,240	177,221	2,549	422	13,768	14,890	288	288,274	1,091	1,858,145
Nelson ..	103,359	227,732	9,116	710	13,042	29,236	574	376,505	1,644	1,523,640
Westland ..	10,861	28,659	595	25	1	1,487	54	41,247	5	593,306
Canterbury ..	1,351,685	345,180	11,751	10,704	333,067	286,210	4,497	2,364,130	22,610	3,790,905
Otago ..	1,322,960	252,538	9,113	33,459	286,719	292,862	4,107	2,194,815	4,803	8,283,880
Totals ..	4,123,304	5,743,245	67,865	60,792	727,038	790,184	16,177*	11,483,127	52,546	22,444,806

* 13,668 acres private garden; 3,119 acres market garden. † 22,123 acres orchard; 254 acres vineyard.

ACREAGE UNDER SOWN GRASSES, AND CULTIVATION GENERALLY, FOR EACH COUNTY, AS ON THE 15TH NOVEMBER, 1897.

Counties.	In Sown Grasses, after having been ploughed.	In Sown Grasses, not previously ploughed.	Land broken up but not under Crop.	Total under Crop.	In Garden.	In Orchard.	Plantations of Forest Trees.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Mongonui ..	4,752	8,339	99	915	48	109	1
Whangaroa ..	621	3,498	..	49	28	69	2
Hokianga ..	426	14,099	3	616	82	206	39
Bay of Islands ..	4,411	24,005	34	795	122	229	4,805
Hobson ..	924	15,767	456	484	62	185	29
Whangarei ..	17,771	53,716	112	2,053	63	869	58
Otamatea ..	4,174	50,303	133	555	63	252	27
Rodney ..	8,933	56,512	508	1,099	127	942	204
Waitemata ..	17,838	23,278	866	1,723	278	1,816	154
Eden ..	16,017	3,544	73	1,799	770	544	296
Manukau ..	90,190	75,206	2,591	18,966	220	1,346	965
Coromandel ..	2,327	7,530	21	183	39	84	..
Thames ..	2,552	2,940	2	631	42	197	10
Ohinemuri ..	4,866	7,011	90	1,002	50	72	49
Piako ..	108,384	37,581	2,548	16,628	83	258	975
Waikato ..	41,260	28,805	372	9,310	77	442	4,947
Waipa ..	60,157	8,453	176	11,757	95	561	479
Raglan ..	10,742	56,158	100	2,656	42	162	62
Kawhia ..	17,405	13,391	..	2,220	2	43	1
West Taupo ..	6,650	4,961	..	2,068	6	41	51
East Taupo ..	136	3,791	..	268	19	27	8
Rotorua ..	918	1,570	17	552	11	23	2
Tauranga ..	28,186	18,590	303	7,935	84	344	141
Whakatane ..	11,178	14,954	191	9,040	59	79	21
Waipatu ..	1,695	131,830	7	985	16	44	11
Cook ..	27,556	374,624	251	6,934	174	443	253
Wairoa ..	14,492	213,554	309	2,913	31	106	187
Hawke's Bay ..	172,128	407,915	2,710	17,411	581	562	1,665
Waipawa ..	98,983	332,814	28	9,782	303	319	1,527
Patangata ..	77,568	298,119	71	5,183	100	102	575
Taranaki ..	37,482	129,835	205	5,945	289	337	216
Hawera ..	40,251	145,195	58	8,749	412	122	345
Patea ..	36,673	93,391	110	4,751	92	154	446
Clifton ..	9,185	38,126	17	1,671	22	84	4
Stratford ..	145	105,685	..	728	36	21	8
Waitotara ..	26,902	60,789	5	4,182	160	264	221
Wanganui ..	16,701	137,046	145	4,771	126	381	249
Rangitikei ..	54,275	161,139	30	17,988	209	317	1,109
Oroua ..	17,650	158,729	198	9,010	284	681	410
Kiwitea ..	558	114,831	..	1,533	49	142	15
Pohangina ..	343	58,681	..	192	31	85	15
Manawatu ..	40,705	63,941	2,083	14,462	104	179	254
Horowhenua ..	1,433	90,418	13	2,669	106	278	22
Pahiatua ..	1,096	116,399	21	884	133	275	40

ACREAGE UNDER SOWN GRASSES, ETC.—*continued.*

Counties.	In Sown Grasses, after having been ploughed.	In Sown Grasses, not previously ploughed.	Land broken up but not under Crop.	Total under Crop.	In Garden.	In Orchard.	Plantations of Forest Trees.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Wairarapa North ..	28,821	500,184	108	12,349	288	422	563
Wairarapa South ..	48,545	308,253	296	17,275	203	319	822
Hutt ..	9,184	136,415	112	2,279	436	426	110
Sounds ..	1,417	42,872	..	314	49	64	13
Marlborough ..	49,835	84,506	422	24,176	204	359	995
Kaikoura ..	29,988	49,843	..	4,158	35	32	88
Collingwood ..	2,824	28,835	8	1,017	15	239	11
Waimea ..	33,086	116,337	314	21,729	327	1,365	196
Buller ..	1,066	6,056	..	169	54	117	1
Inangahua ..	5,358	14,359	45	954	35	68	38
Amuri ..	48,897	49,952	343	8,199	58	28	956
Cheviot ..	12,128	12,193	..	10,210	85	35	442
Grey ..	6,141	13,727	..	748	41	84	3
Westland ..	4,720	14,932	25	740	13	76	2
Ashley ..	224,873	100,830	1,527	88,904	610	407	2,196
Selwyn ..	291,530	26,466	2,475	145,630	1,960	1,038	4,472
Akaroa ..	21,619	149,977	145	5,555	139	302	364
Ashburton ..	383,880	23,666	1,370	173,381	657	361	11,049
Geraldine ..	127,305	6,388	1,243	63,361	256	305	1,787
Levells ..	81,918	1,731	337	47,452	437	205	1,114
Waimate ..	197,845	27,635	3,262	80,697	367	160	842
Mackenzie ..	52,715	8,487	345	14,297	71	9	786
Waitaki ..	193,215	17,730	3,217	81,356	515	195	1,223
Waihemo ..	29,388	4,739	548	11,861	108	42	129
Waikouaiti ..	18,198	68,957	249	7,279	147	103	103
Peninsula ..	2,474	12,769	..	2,012	131	87	99
Taieri ..	80,452	17,197	744	32,577	734	316	430
Bruce ..	91,710	4,901	1,523	42,526	216	93	358
Clutha ..	149,355	25,397	3,590	57,747	319	129	481
Tuapeka ..	85,266	14,578	3,317	38,500	235	272	222
Maniototo ..	30,835	3,059	1,399	23,527	224	24	251
Vincent ..	20,348	2,224	2,756	13,678	141	162	48
Lake ..	11,162	6,271	4,050	11,513	167	55	183
Southland ..	463,060	40,563	10,878	195,808	944	590	968
Wallace and Fiord ..	147,468	33,869	1,188	61,193	210	98	308
Stewart Island ..	29	284	..	9	16	4	..
Total ..	4,123,304	5,743,245	60,792	1,517,232	16,177	22,387	52,546

NUMBER OF ACRES IN GRASS, UNDER EACH CLASS OF CROP, AND IN BARE FALLOW, 1888 TO 1898.

Year.	In Grass or Clover, sown after land ploughed.	In Grass or Clover, sown: land not ploughed.	In Hay, included in either of the both of the previous Columns.	In Bare Fallow.	In Grain-crops (for threshing only).	In Green and other Crops.	In Garden.	In Orchard or Vineyard.	Total in Grass, Crop, Fallow, Garden, and Orchard.	In Plantations of Forest-trees.
1888 ..	2,884,007	3,053,052	67,812	154,266	738,603	454,824	8,608	16,829	7,309,689	28,565
1889 ..	2,941,888	3,337,423	50,656	142,747	793,866	454,243	8,561	15,246	7,693,974	33,988
1890 ..	3,027,912	3,497,137	45,889	149,979	826,505	513,893	8,568	15,771	8,039,765	28,928
1891 ..	3,250,543	3,715,675	44,045	210,509	703,329	582,439	9,810	17,047	8,489,352	35,310
1892 ..	3,327,755	4,076,126	46,652	140,454	769,778	579,112	9,608	19,627	8,922,460	38,723
1893 ..	3,611,393	4,650,652	61,811	154,254	753,091	544,855	9,763	20,085	9,743,593	40,401
1894 ..	3,865,348	4,833,549	60,740	142,342	669,850	551,962	9,951	21,109	10,094,111	39,836
1895 ..	3,908,581	4,921,136	56,614	140,494	560,179	597,686	10,263	21,401	10,159,740	55,396
1896 ..	4,254,983	5,030,247	96,818	58,039	674,850	680,750	17,749	19,362	10,735,980	43,246
1897 ..	4,308,720	5,733,138	109,466	57,158	688,297	762,762	16,924	22,291	11,589,290	47,630
1898 ..	4,123,904	5,743,245	67,865	60,792	727,038	790,184	16,177	22,387	11,483,127	52,546

The extent of land in cultivation (including sown grasses and land broken up but not under crop) amounted to 11,483,127 acres. Of this area, land under artificial grasses comprised 85·92 per cent. ; land under grain-crops, 6·33 per cent. ; land under root and green crops, 6·88 per cent. ; land in garden and orchard, 0·34 per cent. ; and land in fallow, 0·53 per cent.

Wheat.

The wheat harvest of 1898 showed an average yield of 17·95 bushels per acre, the crop realised being 5,670,017 bushels, against 5,926,523 bushels in 1897, 6,843,768 bushels in 1896, 3,613,037 bushels in 1895, 4,891,695 bushels in 1894, 8,378,217 bushels in 1893, and 10,257,738 bushels in 1892.

The quantity of wheat of last season's harvest held by farmers in November, 1897, as shown by the gazetted figures, was 1,149,661 bushels, an amount barely sufficient to meet demands for consumption in the colony until the arrival of the new wheat upon the market. No doubt stocks of flour and grain are held by merchants and millers. The total amount of wheat exported during the year 1897 was only 72,167 bushels, showing that New Zealand had little more than was actually required for consumption by her own people.

The area under wheat for threshing increased however from 258,608 acres in 1897 to 315,801 acres in 1898; and to this increase of 57,193 acres, all the provincial districts with the exception of Hawke's Bay, where the area under this cereal is but small, contributed. In addition to the area cut for threshing, 20,746 acres were cut for chaff, and 24 acres for ensilage, while 11,444 acres were fed down with stock, so that the total area grown in wheat was 348,015 acres.

Of the 315,801 acres in wheat this year, no less than 200,992 acres were in Canterbury, and 80,445 acres in Otago.

The area under wheat for grain, the estimated gross produce in bushels, and the average yield per acre for each of the last ten years were :—

Year.					Land under Wheat.	Estimated Gross Produce.	Average Yield per Acre.
					Acres.	Bushels.	Bushels.
1889	..	..	..	..	362,153	8,770,246	24·22
1890	..	..	..	..	335,861	8,448,506	25·15
1891	..	..	..	..	301,460	5,723,610	18·99
1892	..	..	..	..	402,273	10,257,738	25·50
1893	..	..	..	..	381,245	8,378,217	21·98
1894	..	..	..	..	4,891,695	4,891,695	20·15
1895	..	..	..	..	242,737	3,613,037	24·32
1896	..	..	..	..	143,575	6,843,768	27·88
1897	..	..	..	..	245,441	5,926,523	22·92
1898	..	..	..	..	258,608	5,670,017	17·95
1899	..	..	..	..	315,801		

The following gives the area in wheat and the estimated produce, for the Australian Colonies, for the season of 1897 or 1898:—

Colony.	Wheat-crop.		
	Acres.	Bushels.	Bushels per Acre.
Queensland (1897)	35,831	601,254	16.78
New South Wales (1898)	992,484	10,548,288	10.63
Victoria (1898)	1,638,019	10,425,763	6.36
South Australia (1898)	1,522,668	4,014,852	2.64
Western Australia (1897)	31,488	243,927	7.75
Tasmania (1897)	74,516	1,286,330	17.26

Consumption of Wheat.

The yearly consumption of wheat per head of population in New Zealand, as previously stated, has been estimated at 6 bushels.

The difficulty of correctly computing the consumption of bread-stuffs is shown by the great differences in the estimates arrived at.

The average quantity required per head of the population (exclusive of that used for seed) has been calculated at 6.4 bushels for New South Wales, and $4\frac{1}{2}$ to 5 bushels for Victoria, by statisticians in those colonies.

The average consumption of wheaten bread-stuffs in New Zealand thus appears to be somewhat higher than in Victoria.

The following is the average annual consumption of wheat per inhabitant in some of the principal countries of the world:—

United Kingdom	..	..	..	5.6 bushels.
Canada	..	..	..	6.6 "
France	..	..	..	8.1 "
Germany	..	..	..	3.0 "
Russia	..	..	..	2.1 "
Italy	..	..	..	5.4 "
United States	..	..	..	4.5 "

The English consumption during the last twenty-five years appears to have ranged from $5\frac{1}{2}$ to 6 bushels per head of population. It is stated that the consumption in the United States is not now as high as $4\frac{1}{2}$ bushels, the severe industrial depression of 1893 causing an increase in the use of cheaper grains. It is believed that Indian corn replaces at least one-fourth of the wheat that would otherwise be consumed.

Wheat-crop of the World.

In the next table the wheat crop of the world for the years 1892 and 1896 is shown. The figures are taken, with the exception of produce for the Australasian Colonies, from the "Year-book of the United States Department of Agriculture," published in Washington in 1897:—

WHEAT-CROP OF THE WORLD, FOR THE YEARS 1892 AND 1896.

Country.	1892. 1,000 Bushels.	1896. 1,300 Bushels.
Austria	50,174	43,991
Hungary	142,558	150,660
Croatia-Slavonia	7,071	8,000
Bosnia-Herzegovina	2,000	2,050
Montenegro	250	220
Servia	10,000	9,300
Roumania	63,942	69,200
Turkey in Europe	20,000	24,000
Bulgaria	40,441	45,600
Greece	4,500	4,800
Italy	115,685	132,000
Spain	82,288	83,000
Portugal	6,000	5,600
France	310,836	337,823
Switzerland	4,000	4,800
Germany	116,215	106,140
Belgium	19,500	17,216
Netherlands	5,380	5,400
Great Britain	60,407	58,851
Ireland	2,214	1,191
Denmark	4,964	4,340
Sweden	4,343	4,671
Norway	250	300
Russia in Europe	337,570	365,148
Totals, Europe*	1,410,588	1,484,301
Russia in Asia	72,000	75,000
British India	206,640	181,997
Asiatic Turkey	44,000	44,000
Persia	18,567	20,000
Japan	15,741	16,000
Cyprus	2,000	2,400
Totals, Asia*	358,948	339,397
Egypt	8,252	12,000
Tunis	8,000	5,600
Algeria	19,979	17,600
Cape Colony	3,500	3,200
Totals, Africa*	39,731	38,400
United States	515,949	427,684
Canada	49,701	40,809
Mexico	14,000	8,000
Totals, North America*	579,650	476,493
Argentina	36,000	48,000
Uruguay	3,292	6,000
Chili	16,500	12,000
Totals, South America*	55,792	66,000

* These totals are given in thousands of bushels.

WHEAT-CROP OF THE WORLD FOR THE YEARS 1892 AND 1896—*continued*.

Country.	1892. 1,000 Bushels.	1896. 1,000 Bushels.
Queensland	392.	124
New South Wales ..	3,964	5,195
Victoria	13,679	5,669
South Australia ..	6,436	5,929
Western Australia ..	296	188
Tasmania	938	1,165
New Zealand	10,258	6,844
Totals, Australasia (thou- sands of bushels) ..	35,963	25,114
<i>Recapitulation by Continents (in Thousands of Bushels).</i>		
Europe	1,410,588	1,484,301
Asia	358,948	339,397
Africa	39,731	38,400
North America ..	579,650	476,493
South America ..	55,792	66,000
Australasia	35,963	25,114
Grand Totals (in thou- sands of bushels) ..	2,480,672	2,429,705

Oats.

The extent of land in oats grown for grain in 1898 was 354,819 acres, against 372,607 acres in the preceding year, a decrease of 17,788 acres. The Provincial Districts of Otago (196,946 acres) and Canterbury (115,253 acres) account for 312,199 acres of the total area, Wellington taking third place with 19,705 acres. The breadth of land in oats for chaffing, ensilage, or feeding down with stock was 224,770 acres, an increase of 12,423 acres on the figures for 1897.

The average yield per acre was, in 1897, estimated at 30·15, and in 1898, 27·44 bushels.

The oat-crop for 1897 in the Australian Colonies was as follows:—

	Acres.	Bushels.	Average per Acre.
Queensland	1,881	32,181	17·10
New South Wales ..	39,530	834,633	21·11
Victoria	418,603	6,819,288	16·28
South Australia ..	40,215	189,716	4·72
Western Australia ..	1,753	18,871	10·76
Tasmania	44,768	971,996	21·71

Maize.

This is a very important crop. In 1898 there were 14,837 acres sown for grain. Maize is grown only in the North Island, with the exception of a few acres in Nelson and Canterbury. The Provincial District of Auckland had 13,079 acres; Hawke's Bay, 1,043 acres; Taranaki, 439 acres; and Wellington, 241 acres, in 1898. As considerable interest is taken in this crop, the group of counties where it is grown most extensively is stated, viz.: Tauranga, Whakatane, Waiapu, Cook, Wairoa, Hawke's Bay.

Barley.

Under barley, 29,920 acres were returned in 1898, the estimated crop being 709,874 bushels, an average yield per acre of 23·72 bushels. In 1897 the area under barley was 29,813 acres, and the crop 821,506 bushels.

Potatoes.

The area under potatoes was 36,402 acres in 1898, against 29,990 acres in 1897, an increase of 6,412 acres.

A comparison of the gross yield of potatoes with the amount exported in each of the twelve years, 1883-94, shows that for such period an average of 597 lb. a head was retained in the colony. Allowing for waste, pig-feed, and seed, the average amount retained for human consumption was found to be 449 lb. a head.

Turnips.

Turnips and rape form a most important crop in a sheep-breeding country such as New Zealand, and in 1892 the area of land under this crop amounted to 422,359 acres. The returns for 1895 gave only 385,788 acres, but for the present year 470,582 acres were set down as under this crop, and there were in addition 9,353 acres in mangolds.

The cost of growing turnips sown broadcast and in drills may be: Broadcast—Ploughing, 5s. 6d. per acre; harrowing, 3s. per acre; rolling, 1s. per acre; seed and sowing, 1s. 6d. per acre: total, 11s. per acre. Drill—Ploughing, 5s. 6d.; grubbing, 3s.; harrowing, 3s.; rolling, 1s.; drilling, 3s. 6d.; hand-hoeing, 10s.; horse-hoeing, 5s.; seed and sowing, 2s. 6d.; manure, 10s. to 15s.: total, £2 3s. 6d. to £2 8s. 6d. per acre.

Hops.

There were 845 acres under hops in 1898, as against 746 acres last year. No account of the produce for this or last year was taken, but in 1895 the yield was 7,556 cwt. Small as the area in hops is, it is more than sufficient to supply local requirements, as the import of hops in 1897 amounted only to 1,306 cwt., while the export reached 2,703 cwt. In 1895 the total quantity used by the breweries in the colony amounted to 3,793 cwt. Of the land under hops in 1898, 724 acres were in the Waimea County, and 105 in Collingwood, both in the Provincial District of Nelson.

Tobacco.

The growing of tobacco does not progress in New Zealand. In 1889, 34 acres were being cultivated; in 1890, 25 acres; in 1891, 16 acres; in 1892, 6 acres; in 1893, 4 acres; in 1894, 4 acres; and in 1895, 5 acres, producing 1,599 lb. of dried leaf. Statistics of this crop were not taken in 1896, 1897, or 1898.

Gardens and Orchards.

The extent of land in garden was 16,177 acres, of which 13,058 acres were private gardens, and 3,119 acres market gardens. In artificial plantations of forest-trees there were 52,546 acres.

There were 22,123 acres in orchard in 1898, an increase of 193 acres on the area so returned in the previous year, and 264 acres were returned as "vineyard." The fruit-crop of the colony is supplemented by a considerable import from the Australian Colonies and Fiji.

Sown Grasses and Seeds.

New Zealand is essentially suited for grazing purposes. Wherever there is light and moisture, English grasses thrive when the natural bush and fern are cleared off. In fact, the white clover gradually overcomes the fern; and, from the mildness of the winter season, there are few places where there is not some growth, even in the coldest months of the year. In all parts of the colony stock live, although in varying condition, without other food than such as they can pick up. Sown grass land, as might be expected, heads the list of cultivations.

At the beginning of the year 1898 there were 9,866,549 acres under artificial grasses. Of these, 4,123,304 acres had been previously ploughed, presumably under grain or other crops, while 5,743,245 acres had not been ploughed. Much of the latter area was bush- or forest-land, sown down in grass after the timber had been wholly or partially burnt off.

Seeds are used much as in Great Britain, the following being a common mixture: Perennial ryegrass, 25 lb. to 30 lb. per acre; cocksfoot, 2 lb.; alsike, 2 lb.; timothy, 3 lb.; cowgrass, 2 lb.; red clover, 2 lb.; white clover, 2 lb.; rape, 1 lb.: total, 39 lb. to 44 lb. per acre. Pastures are renewed at intervals of from four to eight years, according to the nature of the land.

The following shows the acreage in sown grasses in the Australasian Colonies in 1897:—

	Acres.				
Queensland	..	..	..	..	11,960
New South Wales	..	..	..	..	384,016
Victoria	..	..	..	..	192,205
South Australia	..	..	..	..	20,027
Western Australia	..	..	..	..	4,044
Tasmania	..	..	..	..	203,306
New Zealand	..	..	..	..	10,045,278

It will be observed that the acreage of land under sown grasses was nearly nine times as great in New Zealand as in the whole of Australia and Tasmania. When compared in size with the colonies of Australia, New Zealand is not large—about one-thirtieth of their total area—but in respect of grazing capabilities the relative importance of this country is much greater. Australia is generally unsuitable, owing to conditions of climate, for the growth of English grasses, and the amount of feed produced by the natural grasses throughout the year is very much less per acre than is obtained from the sown grass lands in New Zealand; indeed, it may be said that the average productiveness of grass-land is about nine times as great here as in Australia, or that land in this colony covered with English grasses may be considered equal, for grazing purposes, to an area of Australian land about nine times as great.

In addition to the artificially-sown pastures, the returns for 1898 show that 22,444,806 acres of unimproved land, including that in tussock or native grass, belonged to the occupied holdings, and were available for stock-feeding by the sheep-farmers and cattle-farmers of the colony.

SUPPLEMENTARY STATISTICS.

I.—PROGRESS OF THE COLONY, 1891 TO 1897.

SUMMARY.

			1897.	1891	Increase or Decrease.
Estimated population (exclusive of Maoris), 31st December			729,056	634,058	94,998
Land in cultivation—					
Holdings (in cultivation) .. No.			*58,904	38,083	*20,821
Total area (including sown grasses and land in fallow) Acres			11,550,075	8,462,495	3,087,580
In crops			1,451,039	1,285,768	165,291
In sown grasses			10,041,858	6,966,218	3,075,640
In fallow			57,158	210,509	-153,351
Live-stock—					
Horses No.			249,813	211,040	38,773
Cattle			1,193,067	831,831	306,236
Dairy cows (included above) ..			300,219	206,906	93,313
Sheep			19,687,954	16,753,752	2,934,202

AUCKLAND PROVINCIAL DISTRICT, 1897-1891.

			1897.	1891.	Increase or Decrease.
Estimated population (exclusive of Maoris)—					
Auckland Provincial District ..			159,216	134,724	24,492
City of Auckland and Suburbs† ..			57,616	51,287	6,329
Land in cultivation—					
Holdings No.			*12,862	8,608	*4,274
Total area (including sown grasses and land in fallow) Acres			1,626,907	1,165,441	461,466
In crops			101,103	70,038	31,065
In sown grasses			1,518,194	1,060,741	457,453
In fallow			7,610	34,662	-27,052
Live-stock—					
Horses No.			61,321	42,826	18,495
Cattle			286,435	234,306	52,129
Dairy cows (included above) ..			60,145	46,182	13,963
Sheep			1,880,692	1,500,102	380,590

NOTE.—The minus sign (—) signifies decrease.

* The comparison is not quite a fair one, as in 1897 holdings of exactly one acre in extent, and certain holdings occupied by Maoris, have been included by the Department of Agriculture, which was not done in 1891.

† Census, 1891 and 1896, figures are given.

TARANAKI PROVINCIAL DISTRICT, 1897-1891.

Estimated population (exclusive of Maoris)—		1897.	1891.	Increase or Decrease.
Taranaki Provincial District ..	..	32,721	22,421	10,300
New Plymouth Borough† ..	..	3,825	3,350	475
Land in cultivation—				
Holdings ..	No.	*4,136	2,504	*1,632
Total area (including sown grasses and land in fallow)	Acres	617,050	308,072	308,978
In crops ..	"	20,555	15,880	5,175
In sown grasses ..	"	595,878	291,471	304,407
In fallow ..	"	617	1,221	-604
Live-stock—				
Horses ..	No.	17,907	10,915	6,992
Cattle ..	"	201,518	103,356	99,162
Dairy cows (included above) ..	"	62,585	26,951	35,634
Sheep ..	"	456,464	240,471	215,993

HAWKE'S BAY PROVINCIAL DISTRICT, 1897-1891.

Estimated population (exclusive of Maoris)—		1897.	1891.	Increase or Decrease.
Hawke's Bay Provincial District ..	..	35,561	28,922	6,639
Napier Borough† ..	..	9,231	8,341	890
Land in cultivation—				
Holdings ..	No.	*3,232	1,913	*1,219
Total area (including sown grasses and land in fallow)	Acres	1,718,345	1,085,454	632,891
In crops ..	"	40,527	36,218	4,309
In sown grasses ..	"	1,673,883	1,021,277	652,606
In fallow ..	"	3,935	27,959	-24,024
Live-stock—				
Horses ..	No.	16,821	13,480	3,341
Cattle ..	"	84,300	55,009	29,291
Dairy cows (included above) ..	"	11,135	9,039	2,096
Sheep ..	"	3,250,577	2,668,893	581,684

WELLINGTON PROVINCIAL DISTRICT, 1897-1891.

Estimated population (exclusive of Maoris)—		1897.	1891.	Increase or Decrease.
Wellington Provincial District ..	..	126,856	99,098	27,758
City of Wellington and Suburbs† ..	..	41,758	34,190	7,568
Land in cultivation—				
Holdings ..	No.	*9,119	5,808	*3,311
Total area (including sown grasses and land in fallow)	Acres	2,146,382	1,508,587	637,795
In crops ..	"	78,978	63,313	15,665
In sown grasses ..	"	2,064,938	1,440,893	623,045
In fallow ..	"	2,466	4,381	-1,915
Live-stock—				
Horses ..	No.	39,916	30,542	9,374
Cattle ..	"	223,724	155,466	68,258
Dairy cows (included above) ..	"	50,816	30,615	20,201
Sheep ..	"	3,952,984	2,750,461	1,202,523

See note on page 417.

† Census, 1891 and 1896, figures are given.

MARLBOROUGH, NELSON, AND WESTLAND PROVINCIAL DISTRICTS, 1897-1891.

Estimated population (exclusive of Maoris)—		1897.	1891.	Increase or Decrease.
Marlborough Provincial District	..	12,969	12,964	5
Nelson Provincial District	..	36,946	35,154	1,792
Westland Provincial District	..	14,775	15,929	-1,154
Land in cultivation—				
Holdings	 No.	*5,095	3,200	*1,895
Total area (including sown grasses and land in fallow)	Acres	675,298	475,860	199,438
In crops	 "	69,529	55,431	14,098
In sown grasses	 "	604,844	411,199	193,645
In fallow	 "	925	9,230	-8,305
Live stock—				
Horses	 No.	14,890	15,181	-291
Cattle	 "	62,446	48,816	13,630
Dairy cows (included above)	 "	18,460	13,759	4,701
Sheep	 "	1,746,923	1,631,456	115,467

CANTERBURY PROVINCIAL DISTRICT, 1897-1891.

Estimated population (exclusive of Maoris)—		1897.	1891.	Increase or Decrease.
Canterbury Provincial District	..	140,438	129,901	10,537
City of Christchurch and Suburbs†	..	51,330	47,846	3,484
Land in cultivation—				
Holdings	 No.	*10,498	7,563	*2,935
Total area (including sown grasses and land in fallow)	Acres	2,552,672	2,034,313	517,859
In crops	 "	582,844	566,153	16,691
In sown grasses	 "	1,959,536	1,409,785	549,751
In fallow	 "	10,292	58,875	-48,583
Live stock—				
Horses	 No.	45,882	47,567	-1,685
Cattle	 "	94,934	82,058	12,876
Dairy cows (included above)	 "	35,803	31,250	4,553
Sheep	 "	4,379,249	3,559,533	819,716

OTAGO PROVINCIAL DISTRICT, 1897-1891.

Estimated population (exclusive of Maoris)—		1897.	1891.	Increase or Decrease.
Otago Provincial District	..	169,324	154,650	14,674
City of Dunedin and Suburbs†	..	47,280	45,869	1,411
City of Invercargill and Suburbs†	..	9,657	8,264	1,393
Land in cultivation—				
Holdings	 No.	*13,942	8,487	*5,455
Total area (including sown grasses and land in fallow)	Acres	2,213,421	1,884,268	329,153
In crops	 "	557,523	479,235	78,288
In sown grasses	 "	1,624,585	1,330,852	293,733
In fallow	 "	31,313	74,181	-42,868
Live stock—				
Horses	 No.	53,076	50,529	2,547
Cattle	 "	184,710	152,820	31,890
Dairy cows (included above)	 "	61,275	49,110	12,165
Sheep	 "	4,021,065	4,402,836	-381,771

* See note on page 417.

† Census, 1891 and 1896, figures are given.

The population of the Chatham and Kermadec Islands, which are not included in any provincial district, was 250 persons in 1897, and 295 in 1891.

II.—THE TOTALISATOR.

Year.	No. of Totalisa- tor Licenses issued.	Days.	Percentage paid to Treasury.	Total Amount Invested by the Public.
			£	£
1889-90	187	241	..	..
1890-91	219	278	..	..
1891-92	234	300	7,591	506,078
1892-93	240	307	10,800	720,029
1893-94	247	318	10,375	691,673
1894-95	207	268	10,446	696,456
1895-96	170	256	11,156	743,763
1896-97	158	250	11,911	794,096
1897-98	155	269	13,237	886,567

N.B.—The years used for purposes of the table are financial years, not the racing years. This accounts for the number of licenses issued in the last two periods being over the legal limit.

III.—LICENSES UNDER THE GAMING AND LOTTERIES ACT, GRANTED TO RELIGIOUS DENOMINATIONS.

RETURN of LICENSES granted by the Colonial Secretary under "The Gaming and Lotteries Act, 1881," to Persons connected with Religious Denominations.

Year.	Total Number of Licenses granted.	Church of England.	Presbyterian Church.	Roman Catholic Church.	Not stated.
1894-95	46	9	10	23	4
1895-96	48	8	1	18	21
1896-97	62	30	3	29	..

PART III.—ARTICLES ON SPECIAL SUBJECTS.

SECTION I.

THE LAND SYSTEM OF NEW ZEALAND.

By S. PERCY SMITH, F.R.G.S., Secretary for Crown Lands and Surveyor-General.

THE Crown lands of New Zealand are administered under "The Land Act, 1892," together with its amendments and the regulations made thereunder.

The distinguishing features of the present land system are the outcome of ideas which have been gradually coming to maturity for some years past in this colony. These features involve the principle of State-ownership of the soil, with a perpetual tenancy in the occupier. This, whatever may be the difference in detail, is the prevailing characteristic of the several systems under which land may now be selected. In New Zealand this tendency to State-ownership has taken a more pronounced form than in any other of the Australasian Colonies, and the duration of the leases has become so extended as to warrant the name, frequently given to them, of "everlasting leases." In point of fact, most of the Crown lands are now disposed of for terms of 999 years. The rentals are based on the assessed value of the land at the time of disposal, without increase or recurring valuations. Under this system there is a fixity of tenure practically equal to freehold, and which, like freehold, necessarily carries with it the power of sale, sub-lease, mortgage, or disposition by will. Since all lands held under the Crown by "lease in perpetuity" are subject to the land-tax, the necessity for the periodical revaluations under the perpetual-lease system is done away with, the State reaping the advantage of the unearned increment through the before-mentioned tax. At the same time the improvements made in the soil by cultivation, &c., are secured to the tenant.

The advantages of this system to the selector are manifest. When it is taken into consideration that, with few exceptions, the Crown lands are, in their prairie condition, incapable of producing anything until brought into cultivation, the advantage to the settler of setting free his capital to develop the capabilities of the soil, rather than having to expend it in the purchase of a freehold, is very apparent. One of the most striking benefits of this system is the advantage it gives to the poor man, who, with little more capital than his strong right arm, is enabled to make a home for himself; which, under the freehold system, he is frequently unable to accomplish.

The values placed on the Crown lands are, as a rule, low, for the State does not so much seek to raise a revenue directly therefrom as to encourage the occupation of the lands by the people; this secures indirectly an increased revenue, besides other advantages resulting from a numerous rural population.

Again, underlying the whole of the New Zealand land system is a further application of the principle of "the land for the people"—viz., the restriction in area which any man may hold. This subject has been forced upon the attention of the Legislature by defects in former systems, under which one individual with means at his command could appropriate large areas, to the exclusion of his poorer fellow-settler. Under existing conditions, where the price at which land is offered is fixed for ever, and where choice of selection is by ballot, the poor settler has the same chance as the rich one, and may, should he wish it, hold as much land. The quantity that a selector may hold is so fixed as to encourage the class of small farmers, and up to that limit the amount he may select is left entirely to himself. The Act defines the amount of land any one may select at 640 acres of first-class, or 2,000 acres of second-class land, inclusive of any land he may already hold. These limits apply to lands which are thrown open for "free selection," as it is termed, but in some cases, where found desirable, the limit is by regulation made much smaller.

In addition to the many advantages offered by the "lease-in-perpetuity" system, the Land Act provides others, to meet the wants of different classes. The rule is almost invariable, that land thrown open for so-called "free selection" is offered to the public under three different tenures, and the choice left entirely to the would-be settler. The three tenures are:—

- (1.) For cash, in which one-fourth of the purchase-money is paid down at once, and the remainder within thirty days. The title does not issue until certain improvements have been made on the land.
- (2.) Lease with a purchasing clause, at a 5-per-cent. rental on the value of the land; the lease being for twenty-five years with the right to purchase at the original upset price at any time after the first ten years.
- (3.) Lease in perpetuity, at a rental of 4 per cent. on the capital value, as already described above.

The present land-laws have been in force since the 1st November, 1892, and, therefore, the returns of the Department of Lands and Survey for the year ending the 31st March, 1898, in respect of lands the tenure of which is optional, will give a fair idea of that tenure most favoured by the public. The figures are:—

1. Cash: 65 selections, 6,680 acres.
2. Occupation with right of purchase: 380 selections, 81,414 acres.
3. Lease in perpetuity: 299 selections, 76,953 acres.

"The Land Act, 1892," provides for a special class of settlement called "small-farm associations," which found favour with the public to a very considerable extent during the first three years after the Act of 1892 came into force, but is now superseded to a large extent by the "improved-farm settlements" system. The "small-farm association" system provides that, where not less than twelve individuals have associated themselves together for mutual help, such an association can, with the approval of the Minister of Lands, select a block of land of not more than 11,000 acres, but there must be a selector to each 200 acres in the block. The extreme limit that one person may hold is fixed at 320 acres. Settlements of this class are held on "lease in perpetuity" for 999 years, in a similar way to lands under the same tenure when thrown open for free selection. The conditions of residence and improvement are the same. The system offers many advantages to the settler, so long as the blocks of land are judiciously chosen, having regard to quality of land, access, markets, and the probability of employment being obtained in the neighbourhood. In the eagerness to obtain lands on such easy terms, these points have, in the past, not received sufficient attention by some of the associations, and in consequence their success remains to be proved.

The following figures show the extent to which settlers have availed themselves of this class of settlement during the six years ending the 31st March, 1898. At that date there were 978 selectors, holding 175,561 acres under various tenures and in different parts of the country. Many of the settlements, where the conditions are favourable, are doing well. Others, in inaccessible parts, are barely holding their own.

The "village-settlement system" of New Zealand has become widely known in the Australian Colonies, and has excited much inquiry with a view to its adoption in other parts. It is believed, however, that this and the "small-farm association" settlements, referred to above, are often confounded in the minds of the public, for of recent years there has been no very great extension of village settlements in this colony. On the 31st March last there were 1,567 settlers holding land under the village-settlement system, which comprise 35,484 acres, and the total number of persons residing in these settlements was 4,894. The total amount of rent and interest paid by these settlers since the commencement of the system is £31,873, the amount advanced by Government for houses, clearing, &c., being £25,932, of which £2,462 had been returned. The total value of improvements on the lands at the same date was £115,834.

The "improved-farm settlements" system, so far as can be judged at present, will eventually take the place of both the "village settlement" and the "small-farm association." In order to find work for the unemployed, considerable areas of forest-clad Crown lands have been set aside, and small contracts for the clearing, burning, and sowing these with grass have been let. The land is then subdivided into small farms, and let on "lease in perpetuity"

at a rental sufficient to cover the cost of clearing, &c., together with a fair rental of the land. Up to the 31st March, 1898, forty-five settlements had been allocated, covering an area of 73,655 acres, situate in various parts of the colony. At that date 501 settlers had been allotted sections, who, together with their families, numbered 1,615 persons who were residing on the lands. They had felled and grassed 15,934 acres. The amount paid to the settlers up to the 31st March was £46,741, and the value of improvements on the land (including the Government advances) was £64,988.

The size of holdings averages about 100 acres.

With respect to other methods of dealing with the Crown estate, the "Digest of the Land-laws" appended hereto will give sufficient particulars.

THE LAND FOR SETTLEMENTS ACTS.

Allusion has already been made to the dearth of Crown lands suitable for small settlements in localities where they are most needed—i.e., in settled districts, where the lands are frequently held in large estates, whose owners employ a good deal of labour. Not only is this the case in many parts of the colony, but there is also a want of land where the sons of settlers can obtain farms not far from the homes of their parents. To meet this want the Hon. J. McKenzie, the present Minister of Lands, introduced into the Legislature in the session of 1892 a Bill intitled "The Land for Settlements Act," which authorised the purchase from private individuals of suitable properties for subdivision into small farms not exceeding 320 acres in extent. Under the provisions of this and the amending Acts several properties have been acquired, and subsequently divided into small farms and leased in perpetuity at a 5-per-cent. rental, on a capital value fixed at a sufficient rate to cover first cost, together with survey, administration, and roads (if required). The process of acquisition is as follows: Whenever a property is offered to the Government, if it is so situated as to meet the object of the Act, a report on it is obtained by a qualified Government officer, and, should his report be favourable, the question of purchase is then referred to a Board of Land Purchase Commissioners, composed of the Inspector, who is the permanent Chairman, three other Government officers, and a member of the local Land Board, whose training and duties qualify them to advise the Government as to whether the purchase is a suitable one, and as to the price which should be given for the property. It is only on the advice of this Board that the Government acts. In nearly all cases the properties acquired have been improved farms, situated in settled districts, where the tenants have some chance of obtaining employment in the vicinity. The amount which might be expended per annum under the Act of 1892 was £50,000; but the Act of 1894 extended this amount to £250,000, and it also provided that the limit of land which might be selected should be the same as under "The Land Act, 1892." A further amendment of the Act in 1897 fixed the amount which might be spent yearly at £500,000. The Act also provides for the exchange

of high-lying pastoral Crown lands for low-lying agricultural lands suitable for small holdings.

A new feature was introduced into the Act of 1894—namely, the power of taking lands compulsorily in cases where the Board could not agree with the owner as to price, &c., and where the Governor in Council decides that the possession of the land for purposes of subdivision is otherwise desirable. The amount payable to the owner is decided by a Compensation Court, composed of a Judge of the Supreme Court and two Assessors; one appointed by Government, the other by the owner of the property. Only one property has hitherto been acquired compulsorily, and that has since been disposed of on satisfactory terms.

The acquisition of lands under the Land for Settlements Acts should prove beneficial in providing homes for a large class of persons, who, from inexperience in the breaking in of new country or other reasons, are in a measure prohibited from occupying the waste lands of the Crown; and, moreover, as the properties acquired are all more or less improved, they seem to afford to the small-farmer class of the Old Country an opening for building up homes for themselves where their previous experience will be of use, instead of having to learn—often by sad experience—the methods adapted to a new and wild country.

“The Land for Settlements Act Amendment Act, 1896,” contains special provisions as to the disposal of lands acquired under “The Land for Settlements Act, 1894,” giving the preference to landless people, and requiring applicants for rural land to satisfy the Land Board as to their means to stock and cultivate the same and erect suitable buildings thereon. It gives the Board, in fact, a discretion as to who shall be entitled to apply for the lands. It also provides, in cases where buildings are on the land to be disposed of, that their value, apart from the capital value of the land, shall, with interest thereon at the rate of 5 per cent. per annum, be paid by the tenant in half-yearly instalments extending over a term of years.

Special regulations have been made as to advances by Government to successful applicants for allotments, in aid of the cost of fencing and planting the same and building dwelling-houses thereon; and also special provisions as to allotments for workmen’s homes, the area of which should not in any case exceed 3 acres.

Regulations giving full directions to applicants under this Act have been issued from time to time, which should be in the hands of every one before applying for lands under this Act.

An account of the operations under the Land for Settlements Acts will be found on pp. 383–85, Part II., of this work.

PURCHASE OF NATIVE LANDS BY GOVERNMENT.

From about the year 1823 (which is the date of the first recorded deed) until the 6th February, 1840, the date of the Treaty of Waitangi, lands in New Zealand were acquired by direct purchase from the Maoris by individual members of the white races. During

the years 1837 to 1839, or about the time it became probable that the sovereignty of the islands would be assumed by the Queen, the greater number of these purchases were made, and they extended to most parts of the country. These purchases are technically known as "the Old Land Claims," and their total number (including pre-emptive claims), as estimated by Commissioner F. Dillon Bell in 1862, was 1,376, covering an area of about 10,322,453 acres, out of which large area grants were recommended for 292,475 acres. These figures have been slightly added to since, but not to any very large extent. The large area shown above was reduced on survey to about 474,000 acres, situated principally to the north of Auckland. The difference in acres between the amount granted and the total area surveyed became what are termed "surplus lands of the Crown." It was held that the Native title had been fully extinguished over the whole area surveyed; but, as by statute the claimants could only be granted 2,560 acres each, the balance became vested in the Crown on the assumption of the sovereignty, the Native title having been fully extinguished.

In many cases the titles did not issue to those to whom the land was awarded, as they were compensated by scrip issued by the Government, with the understanding that such scrip was to be exercised in the purchase of Crown lands in the neighbourhood of Auckland, to which place it was desirable—so soon as the capital was founded—to draw a population. The lands thus paid for in scrip became Crown lands, and these, together with the surplus lands, have from time to time been disposed of by the Crown and settled on. The amount of scrip, &c., issued up to 1862 was over £109,000.

On the signing of the Treaty of Waitangi on the 6th February, 1840, the pre-emptive right of purchase from the Maoris was ceded to the Queen, and consequently private purchase ceased. This remained the law until the passing of "The Native Land Act, 1862," when the Crown relinquished its right of pre-emption, whilst at the same time the purchase of Native lands for the Crown did not abate, but continued side by side with the private purchases up to the passing of "The Native Land Court Act, 1894."

From time to time since 1840 various sums were appropriated by Government or by Parliament for the acquisition of a Crown estate. Up to the date of passing of "The Native Land Act, 1862," these operations were conducted by officers of the Government specially appointed, who, from a knowledge of the Maoris, their customs and disposition, were successful in securing large areas of land for settlement. It must be conceded that their operations as a whole were successful, and that the number of disputed cases arising out of their labours was exceedingly small. The Waitara purchase is, however, here excluded, for there were reasons of general policy affecting that sale which did not prevail in other cases. This purchase was the ostensible cause of the war of 1860

and following years, but the motives which led to it were far deeper than the mere purchase of a few acres—there was a great principle at stake.

The difference effected in the mode of purchase by "The Native Land Act, 1862," was this: Previously, the title of the Maoris who were to receive payment for the land was decided by the Land Purchase officers; but the Act quoted set up a Court, presided over by able Judges, who determined the titles, which were afterwards registered in a special Court. Purchases have since been effected with the registered owners.

It is difficult to obtain figures showing the actual area acquired by the Crown from the Maoris up to 1870, but in round numbers it was 6,000,000 acres in the North Island; whilst the whole of the Middle Island, with the exception of reserves for the original Native owners, was acquired prior to the passing of "The Native Land Act, 1862." Stewart Island was purchased from the Native owners by deed dated 29th June, 1864.

The Native rebellion of 1860–69 brought Native-land purchases, for the time being, practically to a standstill.

The Immigration and Public Works Acts of 1870 and 1873 appropriated £200,000 and £500,000, respectively, for the purchase of lands in the North Island; and these amounts have, up to the 31st of March, 1898, been augmented by further annual appropriations from the public funds and other loan-moneys, covering altogether a total expenditure since 1870 of £1,851,300, with the following results: Area finally acquired in the North Island from Natives, from 1870 to 31st March, 1898, 7,101,832 acres. Area under negotiation in the North Island on 31st March, 1898, 1,400,000 acres; interests therein finally acquired, 502,197 acres.

DIGEST OF THE LAND-LAWS.

Administration.

The Crown lands are administered, under the authority of "The Land Act, 1892," by the Hon. the Minister of Lands at Wellington. For convenience the colony is divided into ten land districts, each being under the local direction of a Commissioner and a Land Board. The Commissioner's office is known as the principal land office, and in some of the larger districts there are one or more sub-offices. It is with these land offices the selector has to transact all business, from the first consultation of the maps to the final receipt of the Crown title.

Land Districts and Principal Land Offices.

The names of the land districts and of the towns where each principal office is situated are, beginning with the most northerly and taking them geographically, as under:—

Land District.	Town where Principal Land Office is situated.	Land District.	Town where Principal Land Office is situated.
Auckland	.. Auckland.	Marlborough	.. Blenheim.
Taranaki	.. New Plymouth.	Westland	.. Hokitika.
Hawke's Bay	.. Napier.	Canterbury	.. Christchurch.
Wellington	.. Wellington.	Otago	.. Dunedin.
Nelson	.. Nelson.	Southland	.. Invercargill.

Classification of Lands, &c.

Crown lands are divided into three classes:—

- (1.) Town and village lands, the upset prices of which are, respectively, not less than £20 and £3 per acre; such lands are sold by auction:
- (2.) Suburban lands, the upset price of which may not be less than £2 an acre; these lands are also sold at auction:
- (3.) Rural lands, which may be disposed of at not less than £1 per acre for first-class, and 5s. an acre for second-class lands; such lands may be sold or leased by auction, or sold or leased on application.

No rural section may be larger than 640 acres in extent if first-class land, or 2,000 acres if second-class land, whether offered by auction or application. No person can select more than 640 acres of first-class or 2,000 acres of second-class land, including therein any land which he then holds. Pastoral runs are limited to areas which will carry 20,000 sheep or 4,000 cattle. No person can select more than one run.

Mode of acquiring Crown Lands.

Crown lands may be acquired as follows:—

- (1.) By auction, after survey, in which case one-fifth of the price is paid down at the time of sale, the balance within thirty days:
- (2.) By application, after the lands have been notified as open for selection, in which case the applicant fills up a form (to be obtained at any of the Land Offices) and makes the declaration and deposit required by the particular system he wishes to select under.

All applications, whether for surveyed or unsurveyed lands, are deemed to be simultaneous if made on the same day, and, if there be more than one applicant for the same land, the right of selection is determined by ballot.

Lands thrown open for application may be either surveyed or unsurveyed, and those not selected the first day remain open.

The Optional System of Selection.

Lands for selection are notified as open for application on and after a stated day, and, at the option of the applicant, may be obtained on any of the three following tenures: (a) Cash; (b) Occupation with the right of purchase; (c) Lease in perpetuity.

(a.) Cash.

If the land is surveyed, one-fifth of the price is to be paid down at the time of application, and the balance within thirty days; or, if the land is not completely surveyed, the survey-fee is paid on application, and goes towards the purchase of the land; the balance must be paid within thirty days of notice that the survey is completed.

A certificate of occupation will issue to the purchaser on final payment, which will be exchanged for a Crown title so soon as the Board is satisfied that the improvements mentioned below have been completed.

(b.) Occupation with Right of Purchase.

Lands selected on this tenure are held under a license for twenty-five years. At any time subsequent to the first ten years, and after having resided and made the improvements hereinafter described, the licensee can, on payment of the upset price of the land, acquire the freehold. If the land be not purchased, the license may be exchanged for a lease in perpetuity.

The rent is 5 per cent. on the cash price of the land; a half-year's rent has to be paid in with the application, if surveyed land, which represents the half-year's rent due in advance on the 1st day of January or July following the selection. If the land is unsurveyed, the cost of survey is to be deposited, and is credited to the selector as so much rent paid in advance, counted from the 1st day of January or July following thirty days' notice of the completion of survey.

Residence and improvement of the land are compulsory, as hereinafter described.

(c.) Leases in Perpetuity.

Lands selected on this tenure are leased for 999 years, subject to the conditions of residence and improvements described below. The rental is 4 per cent. on the cash price of the land, and applications are dealt with in the same way as under the previous tenure (b), but there is at no time a right of purchase.

Two or more persons may make a joint application to hold as tenants in common under either of the two last-named tenures.

Residence and Improvements.

Under the two last-mentioned tenures, the conditions as to residence and improvements are:—

RESIDENCE—

- (1.) Must commence on bush or swamp lands within four years, and in open or partly open land within one year, from the date of selection:
- (2.) Must be continuous for six years on bush or swamp land, and for seven years on open or partly open land, on lands occupied with a right of purchase:
- (3.) Must be continuous for a term of ten years on lease-in-perpetuity lands.

The Board has power to dispense with residence in certain cases, such as where the selector is residing on adjacent lands, or is a youth or unmarried woman living with parents, and in a few other cases.

RESIDENCE implies the erection of a habitable house to be approved of by the Board.

IMPROVEMENTS which must be made are as follows:—

- (1.) Cash-tenure lands must be improved within seven years to an amount of £1 an acre for first-class land, and 10s. an acre for second-class land.
- (2.) Lands held on lease with right of purchase, or on lease in perpetuity, must be improved to an amount equal to 10 per cent. of the value of the land within one year from the date of the license or lease; within two years must be improved to the amount of another 10 per cent.; within six years must be improved to the value of another 10 per cent., making 30 per cent. in all within the six years. In addition to the above, the land must be further improved to an amount of £1 an acre for first-class land, and on second-class land to an amount equal to the net price of the land, but not more than 10s. an acre.

Improvements may consist of reclamation from swamps, clearing of bush, planting with trees or hedges, cultivation of gardens, fencing, draining, making roads, wells, water-tanks, water-races, sheep-dips, embankments or protective-works, or in any way improving the character or fertility of the soil; or the erection of any building, &c.; and *cultivation* includes the clearing of land for cropping, or clearing and ploughing for laying down with artificial grasses, &c.

Special-settlement Associations.

Under the existing regulations any number of persons, not less than twelve, may apply for a block of land of not less than 1,000 acres or more than 11,000 acres in extent, but the number of members must be such that there shall be one for every two hundred acres in the block, and no one can hold more than 320 acres, except in swamp lands, where the area may be 500 acres.

The capital value of lands within a special settlement is fixed after survey by special valuation, but may not be less than 10s. an acre; the rental is not less than 4 per cent. on the capital value, and the tenure is a lease in perpetuity.

Residence, occupation, and improvements are generally the same as already described, and applications have to be made in manner prescribed by regulations.

Applicants should apply to a Commissioner for a copy of the regulations, as they are liable to change at any time.

Improved-farm Settlements.

Special regulations are in force for this class of settlement, which should be applied for, but briefly the terms are as follow: Those who form settlements under these provisions are selected from the applicants by the Commissioner of Crown Lands, preference being given to married men. The areas of the farms may vary from 10 acres to 200 acres, according to locality; no settler can select more than one farm. The land is leased for 999 years at a rental of 4 per cent. on the capital value, to which is added 5 per cent. on the amount advanced by Government for clearing, grassing, &c. The rates allowed for felling are those current in the district, but must not exceed £1 15s. per acre. Advances to cover cost of sowing with grass will be made, if required, likewise not more than £10 towards building a house or erecting fencing. Not more than 100 acres of felling will, however, be paid for. As a rule, the settlers can get employment on the road-works in the neighbourhood, but Government does not guarantee this.

Residence for the first ten years is compulsory, and improvements must be made in terms of Part III. of "The Land Act, 1892." (See *ante*.)

Village Settlements.

Village settlements are disposed of under regulations made from time to time by the Governor, but the main features are as follow:—

Such settlements may be divided into:—

- (1.) Village allotments not exceeding one acre each, which are disposed of either by auction among the applicants or by application, as already described, with option of tenure, the cash price being not less than £3 per allotment:
- (2.) Homestead allotments not exceeding 100 acres each, which are leased in perpetuity at a 4-per cent. rental on a capital value of not less than 10s. per acre.

Residence, improvements, and applications are the same as already described. The leases are exempt from liability to be seized or sold for debt or bankruptcy.

The Colonial Treasurer is empowered in certain cases to advance small sums for the purpose of enabling selectors to profitably occupy their allotments.

Small Grazing-runs.

Small grazing-runs are divided into two classes: First-class, not exceeding 5,000 acres; second-class, not exceeding 20,000 acres in area. The rental in both cases is not less than 2½ per cent. on the capital value per acre, but such capital value cannot be less than 5s. per acre. Small grazing-runs are leased for terms of twenty-one years, with right of renewal for other twenty-one years, at a rent of 2½ per cent. on the then value of the land. The

runs are declared open for selection, and applications and declarations on the forms provided have to be filled in and left at the Land Office, together with the deposit of one half-year's rent, which represents that due on the 1st day of March or September following the selection.

No holder of a pastoral run, and no holder of freehold or leasehold land of any kind whatever, over 1,000 acres in area, exclusive of the small grazing-run applied for, may be a selector under this system; and only one small grazing-run can be held by any one person.

The lease entitles the holder to the grazing rights, and to the cultivation of any part of the run, and to the reservation of 150 acres round his homestead through which no road may be taken; but the runs are subject to the mining laws.

Residence is compulsory, if bush or swamp land, within three years; if open, within one year; and must be continuous to the end of the term, but may in a few cases be relaxed. Improvements necessary are as follow: Within the first year, to the amount of one year's rent; within the second year, to another year's rent; and, within six years, to the value of two other years' rent: making in all a sum equal to four years' rental, which must be expended within six years. In addition to these improvements, bush-covered first-class runs must be improved to an amount of 10s. an acre, and second-class bush-clad runs to an amount of 5s. an acre.

These runs may be divided, after three years' compliance with the conditions, amongst the members of the selector's family.

Pastoral Runs.

Pastoral country is let by auction for varying terms not exceeding twenty-one years; and, excepting in extraordinary circumstances, runs must not be of a greater extent than will carry 20,000 sheep or 4,000 head of cattle. Runs are classified from time to time by special Commissioners into: (1) Pastoral lands, which are suitable only for depasturing more than 5,000 sheep; (2) pastoral-agricultural lands, suitable for subdivision into areas of under 5,000 acres, which may be either let as pastoral runs, generally for short terms, or cut up for settlement in some other form. Leases of pastoral lands may not be resumed; leases of pastoral-agricultural lands may be resumed at any time after twelve months' notice, without compensation.

No one can hold more than one run; but, in case of any one holding a run of a carrying-capacity less than 10,000 sheep, he may take up additional country up to that limit.

Runs are offered at auction from time to time, and half a year's rent has to be paid down at the time of sale, being the amount due in advance on the 1st day of March or September following the sale, and the purchaser has to make the declaration required by the

Act. All leases begin on the 1st day of March, and they entitle the holder to the grazing rights, but not to the soil, timber, or minerals; and the lease terminates over any part of the run which may be leased for some other purpose, purchased, or reserved. The tenant has to prevent the burning of timber or bush; in open country to prevent the growth of gorse, broom, or sweetbriar; and to destroy the rabbits on his run. With the consent of the Land Board, the interest in a run may be transferred or mortgaged, but power of sale under a mortgage must be exercised within two years.

In case it is determined again to lease any run on expiry of the lease, the new lease must be offered by auction twelve months before the end of the term, and if, on leasing, it shall be purchased by some one other than the previous lessee, valuation for improvements, to be made by an appraiser, shall be paid by the incoming tenant, but to a value not greater than three times the annual rent—excepting in the case of a rabbit-proof fence, which is to be valued separately. If the run is not again leased, the value of rabbit-proof fencing is paid by the Crown, but the tenant has no claim against the Crown beyond the value of the rabbit-proof fence; he may, however, within three months of sale, remove fences, buildings, &c. Runs may also be divided with the approval of the Board.

Survey Charges on Unsurveyed Lands.

The following is the scale of charges for surveys of unsurveyed lands:—

Not exceeding 30 acres, £6.

Exceeding 30 and up to 50 acres, 3s. 6d. per acre, but not less than £6.

Exceeding 50 and up to 100 acres, 3s. per acre, but not less than £8 15s.

Exceeding 100 and up to 200 acres, 2s. 6d. per acre, but not less than £15.

Exceeding 200 and up to 300 acres, 2s. per acre, but not less than £25.

Exceeding 300 and up to 500 acres, 1s. 8d. per acre, but not less than £30.

Exceeding 500 and up to 1,000 acres, 1s. 4d. per acre, but not less than £41 10s.

Exceeding 1,000 and up to 2,000 acres, 1s. per acre, but not less than £66 10s.

For the survey of any area of rural land, being open land, the scale of charges shall be two-thirds the foregoing rates.

The Chief Surveyor may vary the above charges by substituting a rate per mile or per day for such work as may not come under the foregoing scale.

ADVANCES TO SETTLERS.

THE Government Advances to Settlers Act was a Government policy measure in the legislation of 1894. It was designed to afford relief to a numerous class of colonists who were struggling under the burden of high rates of interest and heavy legal expenses of mortgages. These were established when prices of agricultural produce were high and profits large; and, so long as business continued to be prosperous, they attracted but little, if any, attention. For several years preceding 1894 commerce and agriculture had suffered from world-wide depression; settlers were becoming embarrassed in their circumstances; and the high rates of interest still charged were felt to be a burden on the industry of the people not easily borne, and a hindrance to the settlement and development of the farming lands of the colony. In these circumstances the Government brought in the Government Advances to Settlers Act. It was passed towards the close of the session of 1894, and immediately came into operation, with results which have proved beneficial to the farming community. A general decline in the rates of interest at once set in, and it is not too much to claim that the Act has been instrumental in lowering these to a considerable extent on several millions of money invested on mortgage of the farming lands of the colony. This result, while it may have diminished the incomes of a few persons resident within the colony, has benefited thousands of deserving settlers and led to large areas of land being brought under cultivation that, but for the Advances to Settlers Act, would still be in their natural state.

The Act authorised the raising of three million pounds sterling within two years, in sums of a million and a-half per annum, at a rate of interest not higher than 4 per cent. In May, 1895, tenders were invited in London for £1,500,000 of 3-per-cent. inscribed stock of the Government of New Zealand, and applications were received for £5,960,400 at prices ranging from £100 to £90. The million and a-half was placed at an average price of £94 8s. 9d.

An amending Act, passed in 1895, extended the time for raising the residue of the three millions to three years from the coming into operation of the amending Act.

To carry out the objects of the Act, an office was established called the "Government Advances to Settlers Office"; at the same time a General Board was constituted to co-operate with and assist the Superintendent, the title by which the chief administrative officer is known.

The business of the Advances to Settlers Office is the lending of money on the security of first mortgages of land, provided the lands are occupied for farming, dairying, or market-gardening purposes. Urban and suburban lands used for residential or manufacturing purposes are excluded from the scope of the Act. The titles which are eligible for advances are classified as follow:—

- (1.) Freehold land held in fee-simple under "The Land Transfer Act, 1885," or freehold land held in fee-simple the title to which is registered under "The Deeds Registration Act, 1868."
- (2.) Crown land held on perpetual lease under "The Land Act, 1885."
- (3.) Crown land held under Parts III. and IV. of "The Land Act, 1892," including land held under occupation-with-right-of-purchase tenure.
- (4.) Crown land held on lease as a small grazing-run under "The Land Act, 1885," or under "The Land Act, 1892."
- (5.) Crown land held on agricultural lease under "The Mining Act, 1891."
- (6.) Crown land held on lease (not being for mining purposes) under "The Westland and Nelson Coalfields Administration Act, 1877."
- (7.) Native land held on lease under "The West Coast Settlement Reserves Act, 1892"; or
- (8.) Land held on lease under "The Westland and Nelson Native Reserves Act, 1887."
- (9.) Land held under "The Thermal-Springs Districts Act, 1881."
- (10.) Educational and other reserves which are subject to the provisions of "The Land Act 1877 Amendment Act, 1882," by virtue of Proclamation made under section 50 thereof, or "The Land Act, 1885," by virtue of Proclamation made under section 237 thereof; or "The Land Act, 1892," by virtue of Proclamation made under section 243 thereof, and are held on perpetual lease or lease in perpetuity, or on deferred-payment or small grazing-run systems.
- (11.) Crown land held by license on the deferred-payment system under Part III. of "The Land Act, 1885."
- (12.) Land held under lease from a leasing authority, as defined by "The Public Bodies' Powers Act, 1887," and providing for the payment by the incoming tenant of valuation for improvements made upon the land, whether by the lessee named in such lease or any former lessee or tenant.

Of these classes, Nos. 10, 11, and 12 were added by amending Acts passed in 1895 and 1896.

Applicants for loans are required to apply on a form prescribed by regulation under the Act, and to pay a valuation-fee in accordance with the following scale:—

	£	s.	d.
On an application for a loan not exceeding £100 ..	0	10	6
Exceeding £100 but not exceeding £250 ..	1	1	0
Exceeding £250 but not exceeding £500 ..	1	11	6
Exceeding £500 but not exceeding £3,000 ..	2	2	0

Valuation reports on the securities offered are made on behalf of the Department by expert land-valuers; and these reports, together with the corresponding valuations appearing in the district valuation-rolls, prepared in accordance with the provisions of "The Government Valuation of Land Act, 1896," and reports from the Commissioners of Crown Lands in the cases of Crown leaseholds, are considered by the General Board. Board meetings are held weekly, or as occasion requires, and the Superintendent is bound by the resolutions of the Board. A resolution is taken with regard to every application placed before the General Board, so that on the Board rests the responsibility of granting loans or of refusing to grant them.

Some applicants offer securities which are obviously not eligible; and in that event the valuation-fees paid are returned, the securities are not reported on, and the applications do not go before the Board.

The Act of 1894 contemplated loans of one class only—namely, loans on mortgages repayable by 73 half-yearly instalments, subject, however, to provisions for paying off the loan at any time—but the amending Act of 1896 added what are known as "fixed loans." Fixed loans are authorised to be made on freehold lands only, and may be for any term not exceeding ten years. They are repayable, without sinking fund, at the end of the term for which they are granted. They must not exceed in amount one-half of the estimated value of the security, and they bear interest, like instalment loans, at the rate of 5 per cent. per annum.

Under the instalment system the Board has power to advance up to 60 per cent. of the estimated realisable value of freehold securities, and up to 50 per cent. of the lessee's interest in the case of leasehold securities.

Loans must not be for a less amount than £25, nor a greater amount than £3,000. The maximum limit was £2,500 under the 1894 Act, but the amending Act of 1896 raised it to £3,000.

Instalment loans are repayable (principal and interest) in thirty-six and a half years, by half-yearly instalments. These instalments are calculated at the rate of 6 per cent. on the amount lent, and, excepting the last, they do not vary in amount. So much of each instalment as is required to pay 5 per cent. on the balance of principal owing at the time of payment is charged for interest, and the remainder of the instalment is applied to the reduction of the principal. As every payment made reduces the amount of principal owing, the charge for interest becomes less every six months, and an ever-increasing proportion of the instalment is available for paying off the debt.

As will be seen by the following table, a mortgagor under this system owes at the end of ten years £87 4s. 7d. for every £100 borrowed, after twenty years £66 5s. 10d., after thirty years £31 19s. 11d., and in thirty-six and a half years the loan is entirely repaid:—

TABLE OF PRESCRIBED HALF-YEARLY INSTALMENTS FOR EVERY ONE HUNDRED POUNDS OF THE LOAN.

Half-year.	Prescribed Half-yearly Instalment.	Apportioned thus:		Balance of Principal owing.
		On Account of Interest at 5 per Cent.	On Account of Principal.	
1st	£ s. d.	£ s. d.	£ s. d.	£ s. d.
2nd	3 0 0	2 10 0	0 10 0	99 10 0
3rd	3 0 0	2 9 9	0 10 3	98 19 9
4th	3 0 0	2 9 6	0 10 6	98 9 3
5th	3 0 0	2 9 3	0 10 9	97 18 6
6th	3 0 0	2 9 0	0 11 0	97 7 6
7th	3 0 0	2 8 8	0 11 4	96 16 2
8th	3 0 0	2 8 5	0 11 7	96 4 7
9th	3 0 0	2 8 1	0 11 11	95 12 8
10th	3 0 0	2 7 10	0 12 2	95 0 6
11th	3 0 0	2 7 6	0 12 6	94 8 0
12th	3 0 0	2 7 2	0 12 10	93 15 2
13th	3 0 0	2 6 11	0 13 1	93 2 1
14th	3 0 0	2 6 7	0 13 5	92 8 8
15th	3 0 0	2 6 3	0 13 9	91 14 11
16th	3 0 0	2 5 10	0 14 2	91 0 9
17th	3 0 0	2 5 6	0 14 6	90 6 3
18th	3 0 0	2 5 2	0 14 10	89 11 5
19th	3 0 0	2 4 9	0 15 3	88 16 2
20th	3 0 0	2 4 5	0 15 7	88 0 7
21st	3 0 0	2 4 0	0 16 0	87 4 7
22nd	3 0 0	2 3 7	0 16 5	86 8 2
23rd	3 0 0	2 3 2	0 16 10	85 11 4
24th	3 0 0	2 2 9	0 17 3	84 14 1
25th	3 0 0	2 2 4	0 17 8	83 16 5
26th	3 0 0	2 1 11	0 18 1	82 18 4
27th	3 0 0	2 1 6	0 18 6	81 19 10
28th	3 0 0	2 1 0	0 19 0	81 0 10
29th	3 0 0	2 0 6	0 19 6	80 1 4
30th	3 0 0	2 0 0	1 0 0	79 1 4
31st	3 0 0	1 19 6	1 0 6	78 0 10
32nd	3 0 0	1 19 0	1 1 0	76 19 10
33rd	3 0 0	1 18 6	1 1 6	75 18 4
34th	3 0 0	1 18 0	1 2 0	74 16 4
35th	3 0 0	1 17 5	1 2 7	73 13 9
36th	3 0 0	1 16 10	1 3 2	72 10 7
37th	3 0 0	1 16 3	1 3 9	71 6 10
38th	3 0 0	1 15 8	1 4 4	70 2 6
39th	3 0 0	1 15 1	1 4 11	68 17 7
40th	3 0 0	1 14 5	1 5 7	67 12 0
41st	3 0 0	1 13 10	1 6 2	66 5 10
42nd	3 0 0	1 13 2	1 6 10	64 19 0
43rd	3 0 0	1 12 6	1 7 6	63 11 6
44th	3 0 0	1 11 9	1 8 3	62 8 3
45th	3 0 0	1 11 1	1 8 11	60 14 4
46th	3 0 0	1 10 4	1 9 8	59 4 8
47th	3 0 0	1 9 7	1 10 5	57 14 3
48th	3 0 0	1 8 10	1 11 2	56 3 1
49th	3 0 0	1 8 1	1 11 11	54 11 2
50th	3 0 0	1 7 8	1 12 9	52 18 5
20	3 0 0	1 6 6	1 13 6	51 4 11

TABLE OF PRESCRIBED HALF-YEARLY INSTALMENTS FOR EVERY ONE HUNDRED POUNDS OF THE LOAN—*continued.*

Half-year.	Prescribed Half-yearly Instalment.	Apportioned thus:		Balance of Principal owing.
		On Account of Interest at 5 per Cent.	On Account of Principal.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
51st	3 0 0	1 5 8	1 14 4	49 10 7
52nd	3 0 0	1 4 9	1 15 3	47 15 4
53rd	3 0 0	1 3 11	1 16 1	45 19 3
54th	3 0 0	1 3 0	1 17 0	44 2 3
55th	3 0 0	1 2 1	1 17 11	42 4 4
56th	3 0 0	1 1 1	1 18 11	40 5 5
57th	3 0 0	1 0 2	1 19 10	38 5 7
58th	3 0 0	0 19 2	2 0 10	36 4 9
59th	3 0 0	0 18 1	2 1 11	34 2 10
60th	3 0 0	0 17 1	2 2 11	31 19 11
61st	3 0 0	0 16 0	2 4 0	29 15 11
62nd	3 0 0	0 14 11	2 5 1	27 10 10
63rd	3 0 0	0 13 9	2 6 3	25 4 7
64th	3 0 0	0 12 7	2 7 5	22 17 2
65th	3 0 0	0 11 5	2 8 7	20 8 7
66th	3 0 0	0 10 3	2 9 9	17 18 10
67th	3 0 0	0 9 0	2 11 0	15 7 10
68th	3 0 0	0 7 8	2 12 4	12 15 6
69th	3 0 0	0 6 5	2 13 7	10 1 11
70th	3 0 0	0 5 1	2 14 11	7 7 0
71st	3 0 0	0 3 8	2 16 4	4 10 8
72nd	3 0 0	0 2 4	2 17 8	1 18 0
73rd	1 13 10	0 0 10	1 18 0	..

Instalment-mortgages.

Under the system of Instalment-mortgages borrowers may pay off the whole balance of principal and interest owing at any time, and obtain a discharge; or they may pay to the Superintendent in reduction of the mortgage debt any sum not less than £5 or a multiple of £5. Payments made in reduction of these loans are treated as deposits, bearing interest at 4 per cent., compounded annually. When deposits with accumulated interest amount to a sum equal to the unpaid balance of the loan, the mortgagor may obtain a discharge of the mortgage on payment of the prescribed release-fee. So long as deposits, with interest added, amount to less than the balance of principal owing, instalments on the original amount of the loan continue to be payable.

Fixed-loans.

In the case of Fixed-loans, payments of £5, or a multiple of £5, may be made in reduction of the loans at the due date of any half-yearly payment of interest, and thenceforth interest is payable only on so much of the loan as remains unpaid. The entire loan, or the

balance owing, may be paid off at any time, with interest added to the date of payment.

The following is the scale of costs and fees for mortgages:—

Costs, Fees, and other Provisions.

Mortgages under "The Land Transfer Act, 1895."

Law-costs of preparing, or perusing, and of registering mortgage (to be deducted from the advance),—

	£	s.	d.
If advance be not exceeding £500	0	10	6
Exceeding £500, but not exceeding £1,000 ..	1	1	0
Exceeding £1,000, but not exceeding £3,000 ..	1	11	6

With cash disbursements, which are the same in every case, namely,—

Mortgage form	2s.	} With an additional 2s. for every certificate of title after the first.
Search-fee	2s.	
Registration	10s.	

Costs and fees for discharge of mortgage,—

Release fee	5s.
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Mortgages under "The Deeds Registration Act, 1868."

Costs of preparing, or perusing, and of registering mortgage, including disbursements (to be deducted from the advance),—

	£	s.	d.
If advance be not exceeding £500	2	10	0
For every additional £500	0	15	0
Costs of discharge, including registration fees ..	1	1	0

Solicitors are entitled to charge moderately for any services mortgagors may require over and above those for which the above scale fixes the costs—such services, for example, as clearing encumbered titles, obtaining and registering titles, &c.

By arrangements made with the Post Office, mortgagors are enabled to pay their instalments and interest to the credit of the Superintendent at any money-order office throughout the colony, and free of all costs for remitting the money to Wellington. This is an arrangement at once convenient and economical for the large number of persons scattered all over the colony who have financial dealings with the Advances to Settlers Office. Loans may also be repaid in full through the Post Office.

The officials of the Government Advances to Settlers Office are bound by declaration to observe secrecy respecting applications for advances, and are forbidden to give any information respecting the business of the Department except to officers appointed to assist in carrying out the provisions of the Act.

The Act provides penalties for persons employed in the business of the Advances to Settlers Office taking any fee or reward from an applicant for a loan under the Act; for persons acting as valuers of land in which they have a pecuniary interest; and for persons who may attempt to bribe any one employed under the Act. It should be understood that no commission, charge, or procuration fee is payable in connection with an application for a loan.

The first meeting of the General Board for the purpose of considering applications for loans was held on 23rd February, 1895; and up to the 31st March, 1898, the Board had authorised 5,837 advances, amounting to £1,736,205, and declined 1,341 applications

for £419,433. The total amount applied for by the 5,837 applications granted in full and partially was £2,028,445. 698 applicants declined the partial grants offered to them, amounting to £330,240; so that the net advances authorised at 31st March, 1898, numbered 5,139, and amounted to £1,405,965. The security for the net authorised advances was valued at £3,151,771. The number of applications received up to 31st March, 1898, was 7,433, for an aggregate amount of £2,512,648. 63 per cent. of the total amount applied for was wanted for the purpose of paying off existing mortgages at rates of interest higher than 5 per cent.

NEW ZEALAND CONSOLS.

THE purpose of "The New Zealand Consols Act, 1894," is, by providing for an inscription of such Consols, to give further facilities for the safe investment of savings. Practically, it establishes another branch of the Government Savings-Bank, with extended power of investment. Under section 3 the Colonial Treasurer is authorised to receive by way of deposits from persons in the colony sums of money up to £500,000; but the amount deposited in any one year must not be more than £250,000. The currency of such deposits is not to exceed forty years. The rate of interest must not exceed 4 per cent. (The actual rate being paid is $3\frac{1}{2}$ per cent. per annum.)

Post-office money-order offices throughout the colony are made use of to receive applications for inscription, and also for payment of the half-yearly interest on the amounts deposited. The Receivers are the Postmasters; and the Registrar under the Act is the Secretary to the Treasury, Wellington.

Regulations have been issued, under which every deposit of money for inscription is to be accompanied by an application according to the form given below, which is to be signed by the applicant and countersigned by the Receiver (Postmaster) taking the deposit. The person paying the money receives an interim receipt pending official acknowledgment from the Registrar at Wellington. The receipt subsequently given by the Registrar to the Consols-holder is not a negotiable document, or of monetary value, beyond its being proof of the deposit for purposes of inscription. A holder of Consols can obtain from the Registrar on application and payment of 5s. a certified copy of any entry in the register relating to his deposit.

There is provision for the transfer of Consols from one holder to another on application being made to the Registrar according to the second form given, and payment of 1s. fee.

In case an inscriber desires to make use of his deposit, or any portion of it, to the extent of £5, or a multiple of £5, he can obtain a Consols certificate which is payable to bearer, and is transferable by delivery. This certificate entitles the holder to receive interest half-yearly at the same rate as the original inscription, and also to payment of the principal sum on the due date.

The application for the certificate must be according to the form appended, and the fee payable is 1s. for every one hundred pounds or aliquot part thereof expressed in the certificate. There is also a fee at the above rate for inscribing the amount of a Consols certificate. The form of Consols certificate is also given.

Interest on Consols for which no certificate has been issued is payable by warrant, and such warrants are transferable by indorsement in the manner provided in the form.

Interest on Consols for which a certificate has been issued is payable to the bearer of the certificate on presentation at any post-office money-order office, or at the Treasury, Wellington (see the last form).

The Act provides for the deposit of money by minors, which may be acceptable to parents as encouraging habits of thrift in children.

The Consols have a currency to the 1st February, 1910, and carry interest at the rate of three pounds ten shillings for every one hundred pounds deposited, and an assured investment of moneys bearing a fair rate of interest for so long a term should secure, when well known, a large portion of the deposits of our thrifty population.

Application for Inscription.

To the Registrar of Inscribed Consols,
Treasury, Wellington.

I [We], of , having this day deposited at the sum of
pounds shillings and pence, for investment in -per-cent.
New Zealand Consols, hereby request that the same may be duly inscribed
in the books of your office in the name of .

Signature of depositor:

Full address of depositor, together with name of nearest
money-order office:

Dated at , this day of , 189 .

Deposit duly received as above.

Signature of Receiver: .

Application for Transfer.

In consideration of the sum of , the receipt whereof is hereby acknowledged, I [we], of do assign the sum of pounds shillings and pence, being my [our] interest or share in the New Zealand -per-cent. Inscribed Consols, under the "The New Zealand Consols Act, 1894," and all my [our] property, right, and interest in and to the same, and the dividends thereon, unto , of , his [their] executors, administrators, or assigns, and the Registrar is hereby requested to transfer the same accordingly. The prescribed fee of is enclosed herewith.

Witness my [our] hand , this day of , 189 .

Signature .

Witnessed by—

Signature: .

Occupation: .

Address: .

I [We], of , do hereby accept the above Consols, and apply for the transfer thereof to me [us].

Signature:

Witnessed by—

Signature:

Application for Consols Certificate.

Place :
Date : 189 .

To the Registrar of Inscribed Consols,
Treasury, Wellington.

I [We], _____, of _____, being the holder of New Zealand Inscribed Consols to the amount of _____ pounds _____ shillings and _____ pence, do hereby make application for a Consols certificate in favour of bearer for the sum of _____ pounds, to be issued to me [us] in accordance with and subject to the provisions contained in "The New Zealand Consols Act, 1894." The prescribed fee of _____ is enclosed herewith.

Signature : _____

Witness—

Signature : _____
Occupation : _____
Address : _____

Consols Certificate.

No. _____ £
THE bearer of this certificate will be entitled to payment of the sum of _____ pounds sterling upon presentation hereof at the Treasury at Wellington, New Zealand, on the _____ day of _____, 19 _____, together with such interest, computed at the rate of _____ sterling per centum per annum, as may be found to be unpaid on the before-mentioned date in accordance with the indorsements of interest-payments made hereon.

The principal and interest are a charge upon and shall be paid out of the accruing income of the Consolidated Fund of the colony.

Interest hereon at the rate of _____ sterling per centum per annum is payable half-yearly, on the _____ and _____ in each year, at any post-office money-order office within the colony.

The amount of interest paid is to be indorsed on the back hereof by the person making such payment.

Dated at the office of the Registrar of Inscribed Consols, Wellington, _____, 189 .

_____, Registrar.

Countersigned—

_____, Controller and Auditor-General.

Entered, folio _____

[On the back, indorsements of the half-yearly dividends paid by the Postmaster are to be duly made.]

Dividend Warrant.

To the Treasury at Wellington, or to the Postmaster at any post-office money-order office throughout the colony.

PLEASE pay _____ or order the sum of _____ pounds _____ shillings and _____ pence, being interest for half-year due _____, 189 , on £ _____ per-cent. New Zealand Consols.
£ _____, Registrar.

I hereby acknowledge to have received the above-mentioned sum in full payment of interest for half-year due as above.

Signature : _____

THE LAND-TAX AND INCOME-TAX.

THE LAND-TAX.

At the time of the repeal of the Property Assessment Act in 1891 it was contended by many that the substitution of a land-tax which exempted from taxation all the improvements on the land, and of an income-tax which exempted all private incomes up to £300 a year, would lead to such a shrinkage of revenue as to render the experiment exceedingly risky. After several collections of land-tax upon the unimproved value only, and an income-tax with the above exemption, it can now, however, be fairly claimed that such a contention has not been realised, and that the revenue, notwithstanding the many adverse circumstances attending the introduction of a new system of taxation, has been fully maintained.

The yield of land-tax for 1897-98 was, in round figures, £269,000, of which about £196,000 represents ordinary tax; the balance, £73,000, being graduated tax, and the special tax on absentee land-owners. For the preceding year the total amount collected was almost exactly the same.

For the purposes of the "ordinary" land-tax, owners are allowed under the Act to deduct from the total unimproved value of their land the amount of any registered mortgage thereon; and the mortgagees are required to make a return of all their mortgages. In the case of uncompleted sales, where the title has not been transferred the amount of unpaid purchase-money is treated as a mortgage—that is, it may be deducted by the purchaser and must be included in the return made by the vendor.

An owner of land the unimproved value of which, together with mortgages owing to him, does not exceed £1,500 (after deducting mortgages owing by him) is allowed an exemption of £500, but where such value exceeds £1,500 the exemption diminishes by £1 for every £2 that such value increases, so that no exemption is allowable when £2,500 is reached.

The Act contains a provision that in cases where the income from any land or mortgages is less than £200 per annum, and the owner is incapacitated by age or infirmity from supplementing such income, a further exemption may be allowed by the Commissioner upon his being satisfied that the payment of the tax would entail hardship on such owner. This discretionary power has been exercised in a considerable number of instances, especially in the case of widows and orphans with small means, and much hardship prevented.

All mortgages are assessed at their full nominal value, except where it is satisfactorily shown that owing to depreciation of the security or other cause such value has been diminished. In the case of mixed mortgages—that is, mortgages which are secured on both real and personal property—the amount of the mortgage

chargeable with land-tax is taken to be the assessed value of the land included in the security, the interest derived from the balance of mortgage being liable to income-tax.

It will be readily seen that the deductions and exemptions which have been referred to materially reduce the number of taxpayers as compared with the number of land-owners, the latter being upwards of 90,000, whilst the former only number about 13,000.

If the unimproved value of land in any assessment amounts to £5,000 or over, graduated tax is payable thereon according to the scale given on another page. Mortgages, however, are not chargeable with the graduated tax; but, on the other hand, no deduction is allowed in an assessment for graduated tax in respect of any mortgage owing on the land.

Twenty per cent. additional graduated tax is levied where the owners have been resident out of the colony for a period of three years or more prior to the date of the passing of the annual Tax Act.

Native lands which are occupied by Europeans are subject to the ordinary tax, it being considered that as such lands have benefited equally with the lands of Europeans by the expenditure of public money, they should bear some proportion of the taxation. But, recognising that in some instances, where the interests of the Native owners are small, the collection of the tax might possibly entail some hardship, the Legislature decided that only half the usual rate should be collected on such lands. Graduated tax is not chargeable on Native land.

THE INCOME-TAX.

Both the number of income-tax payers and the amount of tax received may appear at first sight smaller than might be expected from the population of New Zealand, but it should be remembered that incomes from land and mortgages are exempt, the unimproved value of the former and the capital value of the latter being chargeable with land-tax in the manner hereinbefore explained. The statutory exemption of £300, *plus* life-insurance premiums up to £50, renders a very large number of employes and small traders exempt from the tax. Companies pay the tax on profits, and dividends are not returnable by their shareholders. These circumstances will account for the smallness of the number subject to income-tax and, to a certain extent, the comparatively inconsiderable contribution to the revenue.

Objections to income assessments are heard in private before the Stipendiary Magistrate.

It would be impossible to indicate the number and variety of questions which arise daily in connection with income assessments, much less to give any intelligent account of how they are dealt with. The department has endeavoured to lay down certain definite rules for its guidance in the greater number of cases, and a memorandum embodying these has been circulated among all

who have been called upon to make returns. It is, however, much too lengthy to introduce here.

Amongst the questions to which special attention has been given is that of the depreciation of plant and machinery, and the amount to be allowed as a deduction under this heading. The Amendment Act of 1894 admitted, amongst deductions, an allowance for depreciation of plant and machinery over and above what might be claimed as repairs and renewals. The allowance was, by law, fixed at "what might be considered just by the Commissioner," but the Chief Inspector of Machinery is, in this matter, the expert adviser of the department, and he fixes the rates to be allowed on the different classes of machinery. There were naturally some differences of opinion between owners of machinery and the department, but only in the case of steam-vessels has the Inspector found it necessary to alter the scale first laid down. The rule formulated for the Inspector's guidance was as follows:—

An allowance to be made of such an amount (over and above what is expended in renewals and repairs) as will equal the annual loss of profit-earning power.

This is not intended to provide for the loss of capital invested, but simply represents the annual loss through wear and tear (as affecting income-earning capacity), other than that which can be made good by repairs.

Obsolete machinery is also allowed for when the machinery has been actually discarded; and here the amount to be allowed must bear the same proportion to the whole loss as the time the tax has been in operation bears to the life of the machine. An engine discarded in the third year of the tax—the life of the engine being, say, twenty years—would be allowed for to three-twentieths of the loss incurred, less the annual amounts that had been allowed by the department for depreciation for those three years. Machinery superseded by something better, but kept in reserve in case of a breakdown, would not be allowed for.

It should be mentioned here that the statutory exemption of £300 is not allowed to absentees, whether firms or individuals, nor to companies.

Regulations have been issued for levying income-tax on the profits earned by shipowners whose head-quarters are beyond the colony. The plan adopted is to require a return of the outward freight and passenger lists, and to levy tax at the rate of one shilling in the pound upon 5 per cent. of the total returned.

YIELD OF TAX.

For 1894–95 the land-tax contributed £279,000, and the income-tax £91,000. For 1895–96 the land-tax yielded £271,000, and the income-tax £94,000. For 1896–97 the yield of the land-tax was £272,000, and the income-tax £105,000. For 1897–98 the land-tax yielded £269,000, and the income-tax £115,000.

RATES OF TAX.

The rates of tax at present are as follow : The ordinary land-tax is 1d. in the pound ; the graduated tax commences at £5,000, at $\frac{1}{8}$ d. in the pound on the unimproved value, and rises to 2d. where the unimproved value of an owner's land is £210,000, or exceeds that sum. The ordinary tax on Native land occupied by Europeans is $\frac{1}{2}$ d. in the pound. For taxpayers other than companies the rate of income-tax is 6d. in the pound on the first taxable £1,000—that is, after deducting the £300 exemption—and 1s. in the pound on any excess over £1,000. A person having an annual income of £1,900 would be thus taxed : £300 would be exempted ; £1,000 would pay 6d. in the pound ; and the remaining £600, 1s. in the pound : making a total of £55 a year. The tax on an income of £400 would be at 6d. on £100, equal to £2 10s. Income-tax is payable by companies, at the uniform rate of 1s. in the pound.

The schedule of rates of graduated land-tax is as follows :—

Where the value is	£5,000 and is less than £10,000,	one-eighth of a penny in the pound sterling.
Where the value is	£10,000 and is less than £15,000,	two-eighths of a penny in the pound sterling.
Where the value is	£15,000 and is less than £20,000,	three-eighths of a penny in the pound sterling.
Where the value is	£20,000 and is less than £25,000,	four-eighths of a penny in the pound sterling.
Where the value is	£25,000 and is less than £30,000,	five-eighths of a penny in the pound sterling.
Where the value is	£30,000 and is less than £40,000,	six-eighths of a penny in the pound sterling.
Where the value is	£40,000 and is less than £50,000,	seven-eighths of a penny in the pound sterling.
Where the value is	£50,000 and is less than £70,000,	one penny in the pound sterling.
Where the value is	£70,000 and is less than £90,000,	one penny and one eighth of a penny in the pound sterling.
Where the value is	£90,000 and is less than £110,000,	one penny and two-eighths of a penny in the pound sterling.
Where the value is	£110,000 and is less than £130,000,	one penny and three-eighths of a penny in the pound sterling.
Where the value is	£130,000 and is less than £150,000,	one penny and four-eighths of a penny in the pound sterling.
Where the value is	£150,000 and is less than £170,000,	one penny and five-eighths of a penny in the pound sterling.
Where the value is	£170,000 and is less than £190,000,	one penny and six-eighths of a penny in the pound sterling.
Where the value is	£190,000 and is less than £210,000,	one penny and seven-eighths of a penny in the pound sterling.
Where the value is	£210,000 or exceeds that sum,	twopence in the pound sterling.

THE GOVERNMENT VALUATION OF LAND ACT.

During the session of 1896 the Government Valuation of Land Act was passed, providing for the periodical valuation of all landed properties in the colony. For the purposes of the Act it is provided that the colony shall be divided into special districts.

The first valuation under the Act has just been completed. The purposes for which the valuations are to be used are: Land-tax, local rates (in cases where rates are levied on the capital or on the unimproved value), stamp duties, and duties under "The Deceased Persons' Estates Duties Act, 1881"; for advances and investments on mortgage of land made by the Post Office, Government Insurance Department, Public Trust Office, Government Advances to Settlers Office, and the Commissioners of the Public Debts Sinking Funds. The valuation will also be used for the guidance of the Government in transactions under "The Land for Settlements Act, 1894," and "The Public Works Act, 1894."

Valuations will be supplied by the department on payment of the prescribed fee.

The general valuation-roll continues in force until a fresh roll is made, but whilst in force it may be altered and amended from time to time. The rolls for rating purposes are supplied to local bodies by the Valuer-General on the request of the local authority. The aim is to insure a standard valuation for taxation, local rating, and loan purposes.

Owners and occupiers dissatisfied with their valuations have the right of objection, the procedure being that laid down by "The Rating Act, 1894," and the regulations under "The Government Valuation of Land Act, 1896."

The cost of making the valuation is divided proportionally between the departments mostly using it and the local authorities, while separate fees are provided for by regulation for supplying individual valuations to persons requiring them.

RATING ON UNIMPROVED VALUE OF LAND.

In August, 1896, an Act was passed by the General Assembly termed "The Rating on Unimproved Value Act," for the purpose of affording an opportunity to local bodies of adopting the principle of rating which is expressed in the title of the measure. It is entirely at the option of the bodies to adopt the system, and provision is made for a return to the old system of rating, if desired, after three years' experience of the new one. Under the interpretation clause the term "gross value" means the capital value of land with all its improvements, as assessed by the local authority of the district, the unimproved value of which is to be rateable; and the "unimproved value" is the gross value less that of improvements

thereon. Improvements are defined as "water-races, whether constructed by loan or otherwise, houses and buildings, fencing, planting, draining, clearing from timber, scrub, or fern, laying down in grass or pasture, and any other improvements whatsoever on land, in so far as the benefit thereof is unexhausted at the time of valuation, but do not include reclaiming of land from the sea." The Act provides that a proportion of the ratepayers on the roll, varying from 25 per cent. where the total number does not exceed 100, to 15 per cent. where the number exceeds 300, may by demand in writing, delivered to the chairman of the district, require that a proposal to rate property on the basis of the unimproved value may be submitted to the ratepayers, whose votes shall be taken between twenty-one and twenty-eight days after delivery of the demand. The poll is to be taken in the same manner as in case of a proposal to raise a loan in the district under "The Local Bodies Loans Act, 1886."

A minimum number of one-third of the ratepayers must vote, and a majority of votes carries the proposal.

A rescinding proposal can be carried at a poll by the same means as one for adoption, but not until after three years have elapsed, and, *vice versa*, rejection of a proposal bars its being again brought forward for a similar period.

In the valuation-roll to be prepared the gross value, the value of improvements, and the unimproved value of rateable property must all be set forth. Provision is made for adjustment of rating powers given under previous Acts to the new Act by fixing equivalents. Thus a rate of 1s. in the pound on the annual value under former Acts is to be considered equal to $\frac{3}{4}$ d. in the pound on the gross value.

The adjustments are to be made so that the rates on the unimproved value shall be such as to produce as much as, but not more than, the rates under "The Rating Act, 1894." For instance, supposing a local authority has a rating power up to $\frac{3}{4}$ d. in the pound on the gross (or capital) value, then it can levy any rate in the pound on the unimproved value of land in its district *so long as the producing capacity of such rate is not greater than would be the producing capacity of a $\frac{3}{4}$ d. rate on the gross value of the district.* When a fixed rate, under the older system of rating, is security for a loan, the Controller and Auditor-General is given power to interfere and fix the new rate himself if of opinion that the new rate on the unimproved value does not afford equally good security to the one to be given up.

The operation of the Act does not apply to water, gas, electric light, sewage, or hospital and charitable aid rates.

Up to the present time the number of local bodies that have elected to take advantage of the Act is 9. Particulars respecting these cases are subjoined:—

"RATING ON UNIMPROVED VALUE ACT, 1896."

Results of Polls.

Palmerston North Borough	..	..	..	..	Carried.
Pahiatua Borough	..	..	..	..	Carried.
Pahiatua County	..	..	..	..	Rejected.
Taratahi-Carterton Road District	..	..	..	..	Carried.
Invercargill Borough	..	..	..	..	Rejected.
Sumner Borough	..	..	..	..	Rejected.
Tauranga County	..	..	..	..	Rejected.
Waipawa County	..	..	..	..	Carried.
Raglan County	..	..	..	..	Rejected.
Greymouth Borough	..	..	..	..	Carried.
Melrose Borough	..	..	..	..	Carried.
Normanby Town District	..	..	..	..	Carried.
Stratford County	..	..	..	..	Rejected.
Inangahua County	..	..	..	..	Carried.
Karori Borough	..	..	..	..	Carried.

Votes recorded.

	For.	Against.	Informal.
Palmerston North Borough	402	12	3
Pahiatua Borough	136	38	1
Taratahi-Carterton Road District	261	53	..
Invercargill Borough	267*	199*	5*
Sumner Borough	27*	1*	1*
Tauranga County	112*	2*	2*
Waipawa County	462	28	3
Raglan County	122*	20*	..
Pahiatua County	312*	21*	1*
Stratford County	449*	13*	..
Greymouth Borough	147	28	1

* As less than one-third of the ratepayers have voted, the proposal is rejected.

OLD-AGE PENSIONS.

[Since this account of the bill introduced in 1897 was written, the Old-age Pensions Bill, 1898, has been brought down in the House of Representatives, and is now before that Chamber of the Legislature.]

At the session held in the latter part of the year 1897 the Right Hon. R. J. Seddon, Premier, introduced a Bill into the House of Representatives to provide for old-age pensions to deserving colonists who should be proved to have helped during the prime of life to bear the public burdens of the colony by the payment of taxes and to open up its resources by their labour and skill.

The Bill, as amended by the lower branch of the Legislature, was transmitted to the Legislative Council on the 3rd December, but thrown out by that body on the 15th.

It provided for a division of the colony into districts, the appointment of a Registrar to administer the Act, and Deputy-Registrars in each district.

The age at which a person would have been entitled to a pension, unless disqualified, had the Bill become law, was fixed at

sixty-five years. The qualifications embraced such matters as continuous residence in the colony for twenty years immediately preceding claim, sobriety, morality, proper support of family, &c., and finally provided that the total income from all sources, including personal earnings and pensions, was not to exceed £52 a year.

The amount of pension was to be £18 a year, diminished by £1 for every complete pound of income above £34, exclusive of pension. Rules for computing income were laid down in the Bill.

The necessary funds for payment of instalments of pensions were, by the Bill, to be paid by the Colonial Treasurer, as required, out of the Consolidated Fund into the Post Office Account without further appropriation than that given in the Bill. Thus the scheme did not involve special contributions from individuals, but was one the cost of which would be borne by the general revenue of the colony. (See Note.)

As a preliminary to the introduction of the Bill in 1897, an Act was passed in 1896 termed "The Registration of People's Claims Act," under which persons aged sixty-five years or upwards, having had twenty years' residence in the colony, &c., and whose total income from all sources, excluding personal earnings, did not exceed £50 per annum, were permitted, for a limited time, to send in pension claims.

When the claims were admitted, pension certificates were issued; these certificates to be available as evidence in the event of an Old-age Pension Fund being established at a future time by any Act.

A statement of the claims received and how dealt with is appended:—

How Claims were dealt with.				Number of Claimants.		
				Men.	Women.	Total.
Admitted	..	..	..	3,932	1,652	5,584
Rejected	..	..	..	632	343	975
Postponed	..	..	..	629	246	875
Unadjusted	..	..	..	409	167	576
Total	..	..	..	5,602	2,408	8,010

NOTE.—In connection with this subject a letter to the Premier from the Commissioner of the Government Life Insurance Department was laid before Parliament. It gives the annual payment, beginning at the age of eighteen years, which would be required to secure a pension of £26 a year to any person on and after the age of sixty-five years.

The GOVERNMENT INSURANCE COMMISSIONER to the PREMIER.

Government Life Insurance Department,
Head Office, Wellington, 23rd November, 1897.

SIR,—

In reference to the request contained in Captain Russell's letter, I beg to say that the annual payment, commencing at age eighteen, to secure an annuity of £26 a year, payable at and after age sixty-five, would be £1 11s., subject to the following considerations:—

1. No charge whatever is included for expenses of administration.
2. Interest on the money is taken at 3 per cent.
3. The death-rate assumed is the average rate experienced by the general population of males only in New Zealand, for a recent period of twelve years, excepting for very old people, of whom there are not a sufficient number in the colony to form a reliable experience.
4. The payments are not returnable in any case in the event of death before arriving at the annuity age.

The Right Hon. R. J. Seddon, P.C.

J. H. RICHARDSON,
Commissioner.

THE NEW ZEALAND GOVERNMENT LIFE INSURANCE DEPARTMENT.

THE Commissioner's report for 1897 shows that the year has been a most successful one for the department, 4,351 proposals, for £933,488, having been received, of which 377, or nearly 9 per cent. of the total number, were deferred or declined.

The total sum actually assured during the year was £665,898, the annual premiums on which amounted to £21,591, in addition to single premiums for £1,282. This new business was £59,912 in advance of the previous year's, and, as there was a large diminution in the lapses, the total net increase in assurance amounted to £247,800, being considerably more than double the net increase for 1896.

At the end of 1897 the department had on its books a total existing business, apart from annuities and children's endowments contracts, of sums assured and bonuses amounting to £9,823,081, representing 35,547 policies held by the people of the colony under the mutual benefit tables issued by the office. The significance of these figures will be better understood when we state that they represent an average amount of £36 10s. payable at death or maturity of policy to every European adult male in New Zealand or his representative.

It has frequently been stated that the people of New Zealand carry more insurance on their lives than the people of any other country in the world, and it must gratify all admirers of thrift to know that such is the fact. The other life offices in New Zealand combined have a slightly larger amount of insurance on their books than the Government Department alone, and it is estimated that on the average every male adult carries life insurance to the extent of somewhat over £75. In addition to this, an average of between £6 and £7 is assured on the lives of females over fifteen years of age.

The total income of the department for 1897 was £398,121, of which £260,835 was derived from premiums and £128,424 from interest on investments. The average rate of interest earned was £4 16s. 7d. per cent., and, as it is stated that the department's valuation for the year shows it to be in a position to value all its liabilities at the low rate of $3\frac{1}{2}$ per cent., it will be seen that there is a handsome margin.

The year's death claims amounted to £92,706, which is stated to be well within what is provided for in the tables of mortality used by the department. The total amount paid in claims since the office was established is £1,515,800.

The total assets have been increased to £2,788,670, and the following table shows the manner in which they are invested :—

At 31st December, 1896.		Class of Investment.	At 31st December, 1897.	
Amount.	Per cent. of total assets.		Amount.	Per cent. of total assets.
£	Per cent.		£	Per cent.
812,586	30.7	Mortgages on freehold property	983,452	35.2
872,016	32.9	Government securities ..	827,829	29.7
464,829	17.6	Loans on policies ..	499,531	17.9
167,068	6.3	Local bodies debentures ..	151,678	5.5
146,076	5.5	Landed and house property ..	145,264	5.2
109,990	4.1	Cash on current account ..	103,462	3.7
75,593	2.9	Miscellaneous ..	77,454	2.8
£2,648,158	100.0	Total ..	£2,788,670	100.0

The most noticeable feature shown by the foregoing table is an increase during the year of £170,866 in loans on mortgage, and the Commissioner draws attention to the commendable fact that the overdue interest on all accounts is not more than £482, representing only $\frac{3}{8}$ per cent. of the total interest receipts.

The following interesting table is given to illustrate the progress of the department for the past twenty-five years :—

Year.	Policies in Force.			Annual Premiums.	Revenue from Interest.	Accumulated Funds.	Year.
	Number.	Sum assured.	Bonuses.				
		£	£	£	£	£	
1872	1,689	625,400	..	18,400	500	15,200	1872
1877	7,149	2,716,900	..	87,000	9,100	219,400	1877
1882	15,892	5,176,200	96,900	162,100	36,100	704,900	1882
1887	25,439	6,831,900	305,000	207,100	66,400	1,328,500	1887
1892	30,316	8,036,200	544,600	237,600	100,600	1,980,300	1892
1897	36,174	9,002,600	854,400	266,600	128,400	2,725,100	1897

The annual report concludes with the following extract from a special report on technical matters in connection with the business by Messrs. Ralph Price Hardy and George King, the eminent London consulting actuaries : " We take the opportunity of repeating what we have already said as to the satisfactory position which the New Zealand Government Life Insurance Department has attained. The test valuations have been entirely confirmed by the official valuation, and the Government must be pleased to find that not only has it been possible to declare a substantial bonus, but that the prospects of the future are of great promise."

The latest revenue account and balance-sheet are given as follow :—

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	£	s.	d.		£	s.	d.
Amount of Funds at 1st January, 1897	2,591,342	5	1	Death claims under policies, Assurance, including bonus additions	92,700	9	0
Renewal premiums—Assurance, Annuity, and Endowment	240,235	4	10	Endowment Assurances matured, including bonus additions	52,912	17	0
New premiums (including instalments of first year's premiums falling due in the year)	19,318	8	8	Endowments matured	478	17	5
Single premiums—Assurance and Endowment	1,281	11	1	Premiums returned on endowments		4	10 11
Consideration for annuities	8,852	7	7	Bonuses surrendered for cash	16,003	16	4
Interest	128,423	18	4	Annuities	10,443	10	1
Fees		9	13 11	Surrenders	24,559	13	6
				Loans released by surrender	8,083	15	11
				Commission—			
				New	£12 648	0	0
				Renewal	1,681	0	8
					14,329	0	8
				Land- and income-tax	8,015	4	7
				Expenses of management	36,819	15	10
				Amount of funds at 31st December, 1897	2,725,105	18	3
	£2,980,463	9	6		£2,980,463	9	6

<i>Liabilities.</i>	£	s.	d.		£	s.	d.		
Total Assurance, Annuity, and Endowment Funds (as per Revenue Account) ...	2,725,	105	18	3	Loans on policies ...	490,	530	15	9
Claims admitted, proofs not yet completed ...	19,528	1	9		Government securities ...	827,	823	13	8
Annuities ...	69	2	0		Municipal Corporation debentures ...	106,751	0	7	0
Commission ...	870	5	6		County securities ...	1,000	0	0	0
Medical fees ...	729	9	5		Harbour Board debentures ...	42,991	15	2	0
Premium and other deposits	5,167	4	8		River Board debentures ...	435	0	0	0
Fire Insurance monies in suspense ...	390	0	0		Town Board debentures ...	5	0	0	0
Tontine Savings Funds ...	12,810	10	0		Landed and house property	120,396	1	10	0
Reserve for possible depreciation in freehold and mortgage securities ...	24,000	0	0		Office furniture (Head Office and Agencies) ...	3,199	0	1	0
					"tagages on property ...	983,451	18	7	0
					Properties acquired by foreclosure ...	24,867	9	3	0
					Overdue premiums on policies in force ...	£3,989	10	9	0
					Outstanding premiums due but not overdue ...	30,755	4	6	0
						34,744	15	3	0
					Overdue interest... ..	481	19	6	0
					Outstanding interest due but not overdue ...	4,043	2	3	0
					Interest accrued, but not due ...	31,237	3	7	0
						35,783	5	4	0
					Agents' balances ...	2,496	10	7	0
					Sundry accounts owing ...	1,233	11	10	0
					Cash in hand and on current account ...	103,468	6	8	0
						£2,788,670	4	7	0
						£2,788,670	4	7	0

THE PUBLIC TRUST OFFICE OF NEW ZEALAND.

CONSTITUTION AND OBJECTS.

THE Public Trust Office was constituted by "The Public Trust Office Act, 1872." The original scope of the office and the powers of the Public Trustee have since been much enlarged, to enable the office to perform the various services and the Public Trustee to exercise the responsible and important functions for which "The Public Trust Office Consolidation Act, 1894," now provides the necessary authority.

The office is designed mainly to afford, at low rates of commission, a secure and convenient recourse in every case where a person residing either in New Zealand or abroad, and desiring to form a trust or appoint an agent or attorney in the colony, may be in doubt or difficulty as to the choice of a trustee, executor, agent, or attorney. The office is also designed to relieve those who may be appointed trustees of property in the colony, or who, after having accepted the trusts of such property, may, for various reasons, be unwilling or unable to undertake or continue the administration.

The appointment, however, of the Public Trustee, otherwise than to the administration of an intestate estate, is subject to the consent of the Board of the Public Trust Office; and the Public Trustee cannot under any circumstances accept an appointment jointly with any other person.

"The Public Trust Office Consolidation Act, 1894," itself affords in sections 12, 13, and 14, as clearly, succinctly, and comprehensively as any other form of words could do, a general idea of the object of the Public Trust Office, and of the nature of the business which the office may undertake. Those sections provide as follows:—

12. Where the Crown, the Governor in Council, or the Governor, or a public officer, or a Court, Judge, public or private corporate body, or any person, now or hereafter can appoint a trustee, executor, administrator, guardian, committee, agent, or attorney, any of such appointments may be made of the Public Trustee if he consents thereto. The duties and rights of the Public Trustee under any appointment shall be the same, subject to the express provisions of this Act, as if the appointment had been made of a private person.

13. With the consent of the Supreme Court or a Judge thereof—

Trustees, whether appointed before or after the coming into operation of this Act, may, unless expressly prohibited, and notwithstanding the terms of the trust as to the number of trustees, appoint the Public Trustee sole trustee in their place;

Executors, whether appointed before or after the coming into operation of this Act, may, unless expressly prohibited, before or after taking out probate, appoint the Public Trustee sole executor;

Administrators, with or without a will annexed, whether appointed before or after the coming into operation of this Act, may, unless expressly prohibited, appoint the Public Trustee sole administrator;

Where there are more trustees, executors, or administrators than one, any one trustee or executor (whether before or after proving a will), or any one administrator, may apply to the Supreme Court or a Judge thereof to have the Public Trustee appointed sole trustee, executor, or administrator. All applications to the Supreme Court or a Judge thereof under this section may be by petition, or in such other manner as by rules made under section twenty-eight of this Act may be provided; and the Court or Judge may, and is hereby given jurisdiction to, make such order as it or he thinks fit.

Where to the appointment of a trustee, executor, or administrator the consent of any person is requisite, and such person refuses to consent to the Public Trustee being appointed, or where the person to consent is an infant, idiot, or lunatic, or a person of unsound mind, or is absent from the colony, or is under any other disability, then an appointment of the Public Trustee may be made without such consent, if a Judge of the Supreme Court consents thereto.

Where the Crown, the Governor in Council, the Governor, or any public officer, or any Court or Judge, or any corporate body or association, or person, whether public or private, within or without the colony, desires to or can create any trust, then, unless expressly prohibited, the Crown (by the Governor), the Governor in Council, the Governor, or such public officer, Court, or Judge, corporate body, association, or person may, for the purposes of such trust, appoint the Public Trustee trustee, upon such trusts, and under and subject to such powers, provisions, and conditions, as shall be expressed.

Upon any appointment of the Public Trustee under sections twelve and thirteen of this Act, then, by virtue of the appointment, all property, rights, powers, and functions shall, without any conveyance or assignment, become thereby vested in the Public Trustee.

The Public Trustee, when appointing or acting under this Act as trustee, executor, administrator, guardian, committee, agent, or attorney, shall have the same rights and immunities as a private person acting in any of those capacities would have.

14. The Public Trustee, upon the death of any person domiciled in New Zealand, or who has property in New Zealand, who has died or shall hereafter die within New Zealand or elsewhere intestate, shall, if he thinks fit to apply therefor, be entitled to administration.

The application may be made in any judicial district of the Court at the discretion of the Public Trustee.

Upon such application, no further proof of the death and intestacy of any person shall be required than an affidavit that, after due inquiries, the Public Trustee is satisfied that such person died intestate.

The Public Trustee shall be entitled, as of right, to such administration: Provided that if some other person within the colony who, if it were not for this section, would be entitled to such administration, applies for such administration, then the Court or Judge may grant administration to such person: Provided that it shall not be necessary for the Public Trustee, nor shall the Court or Judge require him, to give notice of such application to any such person.

THE SECURITY.—CAPITAL FUNDS AND INTEREST GUARANTEED.

The security and fidelity of the administration of the Public Trustee cannot but form a great attraction to any person who may contemplate the appointment of a trustee, executor, administrator, agent, or attorney. The Public Trust Office is a department of the Government service. The good faith of the administration is guaranteed by statute, and the colony is pledged to maintain the integrity of capital funds placed in the Public Trust Office, either without any direction for investment, or to be invested at the option of the Public Trustee in any of the securities in which, unless

expressly prohibited, he may invest all capital—that is, in any of the securities authorised by section 31 of the Consolidation Act as amended by the Act of 1895:—

- (1.) In the Government securities of the United Kingdom, or of any colony or dependency thereof, issued under the authority of the Parliament or other legislative authority of the said kingdom, colony, or dependency respectively, and secured upon the public revenues thereof :
- (2.) In debentures issued by any local authority under any law now or hereafter in force, secured upon general or special rates, or upon real estate held in fee-simple free from encumbrances, or upon the rents and profits of real estate held in fee-simple free from encumbrances: Provided that no greater advance shall be made where the debentures are secured upon real estate than three-fifths of the value of such real estate ; and if the debentures are secured upon rents and profits, then no advance shall be made unless such rents and profits are sufficient to pay two-thirds more than the annual interest payable in respect of the advance :

“ Local authority ” means, for the purposes of this subsection, the Council, Board, or other authority of a city, borough, county, town-district, road district, drainage district, harbour district, or river district, now or hereafter constituted under an Act of the General Assembly :
- (3.) In advances by way of mortgage on the security of any real estate held in fee-simple within the colony and free from all encumbrances, to an amount not exceeding three-fifths of the estimated value of such estate, according to a valuation approved by the Board :
- (4.) In fixed deposits in any bank of issue created or established by or under any Act of the General Assembly, or by Royal Charter, and carrying on business in the colony, or in the Post-Office Savings-Bank, or other savings-bank established in New Zealand in accordance with any law affecting such banks.

The colony further guarantees on the capital funds arising from the estates in the office, and available for investment at the discretion of the Public Trustee, a common rate of interest, to be determined from time to time by Order in Council, and to be credited quarterly, *free of all office charges of the Public Trust Office*, to the properties from which the funds arise. Thus the funds are afforded a STATE GUARANTEE,—

1. Against loss from investments in bad or insufficient securities ;
2. Against loss from delay in the investment ;
3. That the interest determined from time to time by Order in Council shall be regularly and punctually paid, *free of all charges of the Public Trust Office*.

A person making a will, or arranging a trust, or proposing the appointment of an agent or attorney, must always be seriously concerned as to the security of the funds ; and the larger the amount of the funds the greater will be the concern for security, and the less for the rate of interest. Private executors, trustees, or agents, or attorneys whose administration or conduct should be at fault, may be without the means of repairing the errors for which they are accountable ; or may, in cases where their acts are justifiable, make disastrous and ruinous investments.

The Public Trustee, in his official capacity, never dies, never

leaves the country, and never becomes disqualified or involved in private difficulties, or distrusted. By his appointment as trustee, executor, administrator, agent, or attorney, the preparation of the numerous deeds, and the consequent expense, which might become unavoidable in the case of a private appointment, are rendered unnecessary. These advantages will be readily appreciated by all who have had any experience of private appointments.

SPECIAL POWERS OF THE PUBLIC TRUSTEE.

If after the death of a person leaving a will, of which the Public Trustee is not appointed executor, three months should elapse without an application being made for probate or administration, the Public Trustee may, on applying, obtain letters of administration, unless the person entitled to probate should then apply or give satisfactory reasons for the delay. As to the estates of persons dying intestate in New Zealand or elsewhere, and domiciled in or having property in the colony, the Public Trustee is entitled as of right to the administration in cases where the persons who would otherwise be entitled to administer neglect to apply for or fail to obtain the necessary authority.

When an intestate estate to be administered by the Public Trustee is of no greater value than £250, he is authorised to assume the administration by filing in the Supreme Court an election to administer. To estates of small value it is of no little importance that the Public Trustee should be thus empowered to save them from the expense of letters of administration.

For the purposes of the administration of an estate where the Public Trustee may be appointed trustee, executor, administrator, guardian or committee, or may be otherwise authorised to act under the Public Trust Office Consolidation Act, he may, where he is not prohibited by statute or instrument, and without the consent of the Supreme Court, do everything in general that a prudent owner might be reasonably expected to do, except to sell, lease, dispose of, or borrow money upon real estate of value exceeding £500. These powers enable the Public Trustee not only to avoid delays and interruptions in the course of his management of an estate and the expense which may thus be occasioned, but to save to the estate the profit which only the possession of such powers would make it practicable to save.

The Public Trustee may at any time exercise the necessary powers of executor or administrator for the protection of an estate, and his authority to assume this temporary power extends to testate as well as intestate estates. This authority is highly serviceable to the interests of estates in every case where a property may be suffering, or in danger of suffering, injury through neglect or delay to take out probate or administration. The security of property is strengthened by the existence of a power to protect, which can be invoked when protection is required.

The Public Trustee may further use a large discretion in the application of the residue of intestate estates; and he is in like manner empowered to apply, consistently with the provisions of the instruments under which he is acting, the shares of testate or trust estates towards the maintenance, education, or advancement of the beneficiaries.

Thus, in the case of an intestate estate, the Public Trustee may deal thus with the net residue:—

- (1.) When not exceeding £200, he may apply it to the maintenance, &c., of the widow or infants:
- (2.) When not exceeding £50, he may pay it wholly to the widow:
- (3.) When there are infants entitled, and the share of an infant does not exceed £50, he may pay such share to the widow or other person for the maintenance of the infant:
- (4.) When the person entitled to the residue does not claim it within three years after the death of the intestate, and the Public Trustee does not know or is unable to ascertain the existence of any next-of-kin, he may pay or transfer it wholly to the widow:

And in the case of testate or trust estates, where provisions are not expressly made for the maintenance of an infant, or where provisions are not expressly made to the contrary, the Public Trustee may apply—

- (5.) The whole or part of income to which an infant is entitled in possession to the maintenance of the infant;
- (6.) The capital share to which an infant is entitled in possession to the maintenance of the infant;
- (7.) The half, or to the extent of £500, of the *capital share* to which an infant is entitled in reversion immediately expectant on a prior life-interest to the maintenance of the infant, on the written consent of the person having such life-interest;
- (8.) The presumptive or contingent shares of infants in the capital and income towards the maintenance of the persons of the class to whom such capital and income would be payable in certain contingencies, with the consent of the persons having prior estates or interest.

The special powers of the Public Trustee in respect to testate and trust estates—powers with which private trustees could not expect to be clothed, but which may be safely granted to an officer in the position of the Public Trustee—enable him to supply promptly and inexpensively what may be described as deficiencies or omissions in instruments of trust, and thus, so to speak, perfect an incomplete will or settlement; enable him to make, for instance, the maintenance of infants, for whose benefit an estate is to be administered under a will containing no directions for maintenance, such a charge on the estate as the testator must, from the circumstances of the case, be supposed to have intended.

The advantage which estates in the Public Trust Office must unquestionably derive from the Public Trustee's possession of such large powers of general administration affords another powerful argument in favour of the office. To sum up, in New Zealand the law provides for the estates of deceased persons a choice between two administrations: one an administration by private trustees, necessarily restricted in their powers, and subject to all the contingencies of private management; the other an administration by the Public Trustee, in which he is authorised to exercise large discretionary powers in the interest of the estates, and in which the integrity of the capital funds and his own good faith are guaranteed by the colony.

THE PUBLIC TRUSTEE AS AGENT OR ATTORNEY.

The Public Trustee's authority to accept the appointment of agent or attorney—that is, to act in effect as a public attorney, for whose conduct the colony is responsible—enables him to render a great variety of services of a temporary and subordinate character, services for which he could rarely be employed without such authority, owing to the expense in that case of the necessary deed of trust. To persons leaving the colony for a time, or desiring for other reasons to arrange for the temporary management of their property, the Public Trust Office must prove a convenience, especially in cases where the appointment of any other agent or attorney would be unsatisfactory.

As agent or attorney for a property that may eventually become subject to a will of which he is executor, the Public Trustee acquires knowledge of great service to his ultimate administration. The person, for example, who may appoint the Public Trustee to be trustee or executor under a will, and afterwards, while yet living, may desire to be relieved of the care and management of the relative property, will find in this authority of the Public Trustee to act as agent or attorney a provision by which the desired relief can be secured through the future administrator of the estate; and the Public Trustee will, as agent or attorney, obtain a knowledge of all the circumstances of the property, and continue the ultimate administration with the profit and advantage which the estate must obviously derive from that knowledge.

GENERAL.

The draft of a will, deed of trust, settlement, or power of attorney, in which the Public Trustee is to be appointed executor or trustee, agent, or attorney, will, when required, be examined in the Public Trust Office free of charge, for the purpose of bringing to light any provisions which may be ambiguous, or such as the Public Trustee could not follow; and testators who may appoint the Public Trustee to be their executor should therefore submit their wills to him for the purpose of finding out whether the Board would

be likely to accept the trusts, and of obtaining, without expense, a careful consideration of any objections.

Any property can be vested in the Public Trustee upon trusts defined in the deed creating the trust, and the income from such property can be dealt with as may be desired.

Wills of living persons may be deposited in the office for safe custody. The Courts of the colony competent to grant probate or letters of administration refer, in the case of any application for such probate or letters, to the list of wills in the Public Trust Office; so that the deposit of a will with the Public Trustee insures that it shall be forthcoming on the death of the testator, and when the administration of the relative estate becomes necessary.

In the very large number of cases where persons die intestate it is the duty of the Public Trustee to administer if the person who is otherwise entitled to administer neglects to apply for or fails to obtain letters of administration. Almost all who have realised the care and responsibility inseparable from the administration of an estate, and who understand what services the Public Trust Office is capable of rendering, and what relief may be obtained through the agency of the office, would prefer to allow an estate in which they may themselves be interested, or which they are expected to manage, to be administered by the Public Trustee. After the assets of an intestate estate have been realised and the debts and expenses paid, the Public Trustee, on receiving satisfactory proofs of kinship, distributes the residue in accordance with the law. If the relatives have to be found, the Public Trustee takes active steps to trace them.

The Public Trustee is authorised by "The Lunacy Act, 1882," to undertake the administration of the estates of lunatics in every case where no committee may be appointed for the estate; and by "The Lunatics Act Amendment Act, 1895," he is authorised to exercise large powers in such administration. He may, where the value of the estate does not exceed £500 exclusive of debt or other charges, administer without being required, as formerly, to obtain the previous sanction of the Supreme Court, and administer, consequently, with an economy to the estate and a benefit to the family of the lunatic such as would seldom result from any but a competent administration by a member of the lunatic's family. The property, wherever situated, of a lunatic in the colony vests in the Public Trustee in the same manner as it vests in him when he is appointed committee of the lunatic's estate by the Supreme Court. Every private committee of a lunatic's estate is required to render to the Public Trustee, at such time as he shall prescribe, an account of the affairs of the estate and of all the transactions of such committee; and five days' notice is to be given to the Public Trustee of any application to appoint a committee of a lunatic's property. The Public Trustee must, therefore, exercise, with respect to the estates of lunatics in the colony which may not be administered by him, a

supervision which cannot but operate favourably to the interests of those estates. It may be remarked as an interesting fact that of the estates of the lunatics in the asylums of the colony fully 90 per cent. are administered by the Public Trustee. -

For the purpose of the administration of statutory trusts the Public Trust Office renders very valuable and important services to the Government and to the colony. It is, and must obviously be, of great moment to the public that the administration of many funds and properties should be such as to leave no doubt that the directions of the trust will be faithfully observed. Where a fund or property of which the Government may desire to create a trust is not specially authorised by statute to be placed in the Public Trust Office, the purpose is served by the execution of an ordinary trust instrument.

The administration of the Public Trustee is exposed to a stronger light of public criticism than the administration of a private trustee could be, and any reasonable complaints from the beneficiaries, or from any one, would be echoed by the Press as matters of public concern; and these considerations must be sufficient to insure a careful and strictly conscientious observance by the Public Trustee of his obligations.

The reputation and services of the office have attracted attention in the United Kingdom and in other countries, and several trusts of money belonging to persons resident abroad have already been accepted by the office.

CHARGES.

The commissions and charges which the Public Trustee is authorised to levy for the services of the Public Trust Office are calculated to be no more than sufficient to meet the expense of maintaining the department without loss; and it will be found that the charges for the administration of a property by the Public Trustee will compare very favourably with the expense of an administration by any other agency.

RETURN OF BUSINESS.

The number and value of the estates of each class in the Public Trust Office were, at the close of the years 1890, 1891, 1892, 1893, and on the 31st March, 1895, 1896, 1897, and 1898, as shown in the following table:—

NUMBER AND VALUE OF ESTATES IN PUBLIC TRUST OFFICE, DECEMBER, 1890, TO MARCH, 1898.

Class.	Number of Estates										Value of Estates									
	On 31st Dec. 1890.	On 31st Dec. 1891.	On 31st Dec. 1892.	On 31st Dec. 1893.	On 31st Mar. 1896.	On 31st Mar. 1897.	On 31st Mar. 1898.	On 31st Dec. 1890.	On 31st Dec. 1891.	On 31st Dec. 1892.	On 31st Dec. 1893.	On 31st Mar. 1895.	On 31st Mar. 1896.	On 31st Mar. 1897.	On 31st Mar. 1898.	£	£	£	£	£
Wills and trusts (in- cluding Sinking Fund Accounts)	288	348	354	371	392	447	466	493	418,047	415,160	442,671	543,239	586,814	673,478	744,742	789,162				
Intestate estates ..	752	794	845	868	850	812	781	797	75,305	83,381	81,650	84,436	80,287	86,132	88,751	97,140				
Real estates ..	109	114	117	117	113	91	86	84	23,496	24,190	22,706	23,465	22,462	14,686	11,161	10,372				
Lunatic estates ..	137	181	202	271	335	434	510	558	32,918	34,913	40,380	51,278	72,706	73,995	88,133	85,890				
Native Reserves ..	99	100	101	102	103	107	112	112	340,869	344,692	346,499	348,500	350,000	350,000	355,000	355,000				
West Coast Settle- ment Reserves.	298	293	293	293	293	293	293	298	349,462	350,289	350,839	400,000	450,000	600,000	600,000	600,000				
Unclaimed lands..	..	..	..	..	..	52	86	76	..	..	..	..	..	8,662	10,376	12,550				
Totals ..	1,6781,8251,912	2,022,086	2,236	2,384	2,413	2,409	1,252,625	1,284,745	1,450,918	1,562,269	1,806,953	1,898,163	1,950,314							

TECHNICAL EDUCATION.

GENERAL information on the subject of technical education in New Zealand is given in Part II., p. 166, and onwards. Particulars in detail respecting the School of Engineering and Technical College, Christchurch, the Schools of Mines and Medicine connected with the University of Otago, and the Canterbury Agricultural College, are furnished below for the information of persons desiring to take advantage of these institutions.

SCHOOL OF ENGINEERING AND TECHNICAL SCIENCE, CANTERBURY COLLEGE, CHRISTCHURCH.

Professor in Charge: Robert J. Scott, M.I.M.E., A.M.I.C.E., M.S.A.E., &c.

Location.

The School of Engineering and Technical Science is located in a wing of Canterbury College, which comprises a lecture- and drawing-room capable of accommodating sixty students, an experimental research laboratory, boiler-house, specimen- and model-rooms, and offices.

Work.

The work of the school is divided into three sections:—

- (a.) The education of students with a view to their becoming qualified engineers.
- (b.) The imparting of technical instruction by means of evening lectures to mechanics and apprentices engaged at their trades during the day.
- (c.) Experimental research as to the physical nature of the manufactured and natural products of the country.

The Education of Engineers.

Students who have matriculated are, by a four years' course of theoretical, technical, and practical work, prepared for taking the degree of Bachelor of Science in Engineering in the University of New Zealand. The necessary lectures in mathematics, chemistry, and physics are given by the professors of those subjects at Canterbury College, the technical lectures and instruction in drawing and experimental work by the Professor of Engineering, and the practical work is obtained at the Government Workshops.

The examiners are appointed in England by the University Senate.

The session is the same as in the arts course, Canterbury College, and consists of two terms each year. In the first term lectures begin on the 10th March and end on the 30th June; in the second, they begin on the 28th July and end on the 24th October.

Course in Mechanical and Electrical Engineering.

First year: Mathematics; physics; inorganic chemistry, including laboratory practice; freehand mechanical drawing; elementary steam-engine.

Second year: Mathematics, mechanics, and hydrostatics; applied mechanics; mechanics of machinery; descriptive geometry; mechanical drawing; elementary steam-engine.

Third year: Mathematics; strength of materials in construction; advanced steam-engine; mechanical drawing; engineering laboratory; advanced electricity for electrical engineering.

Fourth year: Mathematics; mechanical drawing and designing; theory of workshop practice; engineering laboratory; and one of the following subjects:

(a) Naval architecture; (b) locomotive and railway engineering; (c) engineering, applied to arts and manufactures; (d) electrical engineering.

NOTE.—Students are required to do eighteen months' practical work in an approved workshop; to be taken during the long vacations.

Course in Civil Engineering.

First year: Mathematics; physical science; inorganic chemistry; freehand and mechanical drawing.

Second year: Mathematics; mechanics and hydrostatics; descriptive geometry; applied mechanics; mechanics of machinery; physical geology; practical surveying.

Third year: Mathematics; strength of materials in construction; mechanical drawing and designing; building construction; engineering laboratory.

Fourth year: Mathematics; mechanical drawing and designing; advanced surveying, including geodesy; engineering laboratory; civil engineering: (a) borough engineering, (b) railway engineering, (c) marine engineering.

NOTE.—Students are required to do nine months' practical work in an approved workshop, and to be nine months in the office of a Civil Engineer in actual practice; to be taken during the long vacations.

Fees.—The lecture-fees paid by a student taking the engineering course are as follows: For the first year, about £20; second year, about £15; third year, about £14; fourth year, about £15.

Exhibitions.

The Governors of Canterbury College offer one Entrance and one Second-year Exhibition, each of the annual value of £20, for competition yearly, subject to the following regulations:—

Regulation I.—Entrance Exhibitions.

1. There shall be an Entrance Exhibition of the annual value of £20, tenable for two years, offered for competition each December.

2. The examination for the Entrance Exhibition will be conducted by means of the University Junior Scholarship papers, and there will be in addition a special examination in drawing and in manual work (optional).

3. The following is the schedule of maximum marks for the various subjects of examination:—

Latin	750	*Drawing—Freehand, 500; geo-
Greek	500	metrical, plane and solid, 300;
English	500	mechanical or survey plot-
French	400	ting, 400 1,200
German or Italian	400	Manual work, with hammer,
*Mathematics	1,500	chisel, and file, marking off
*Science	1,000	work 1,000
History and geography	400	

4. Candidates are allowed to take six subjects. No candidate will be eligible unless he passes the matriculation examination nor unless he has gained at least 80 per cent. of the full marks in mathematics, science, and drawing. The marks in any subject will not be counted unless the candidate has gained at least 20 per cent. of the full marks in that subject.

Regulation II.—Second-year Exhibition.

An exhibition of the annual value of £20, tenable for two years, will be offered each year for competition among those students who pass their second-year examinations.

The Technical School.

1. The classes of the school are open to all persons over sixteen years of age.
2. All lectures of the engineering course are open to students of the Technical School.

3. A student attending the technical lectures prescribed for the course in

* Compulsory.

engineering, on passing satisfactory examinations, and giving proof of practical expertness, will receive a certificate in practical engineering.

4. Certificates will be granted to students attending lectures and passing a satisfactory examination in any subject taught at the school.

The subjects in which evening instruction is given are :—

(1.) Freehand mechanical drawing, comprising the sketching of machine and constructive details from (a) diagrams, (b) models, (c) the actual object, and dimensioning sketches for the production of working drawings.

(2.) Descriptive geometry and the setting out of work: Use of drawing instruments and scales, elementary problems, setting out the common curves, projection of the conic sections, the intersection of solids, and the development of surfaces; setting out metal-plate work for coned, flanged, dome, and other curved surfaces; pipe work, bends, tees, &c.; setting out screw surfaces, screw propellers, handrailing, mouldings, &c.; setting out the teeth of gear-wheels, spur, bevel, and screw; projection of shadows.

(3.) Mechanical drawing: Preparation of working drawings in modern drawing-office style for mill-work; engine- and machine-work; boiler-, bridge-, and roof-work; forge-work; building-construction; details in carpentry and stone-mason's work; printing, lettering, and colouring.

(4.) The steam-engine.

(5.) Applied mechanics.

(6.) Mechanics of machinery.

(7.) Advanced steam.

(8.) Strength of materials.

The course recommended to evening students is as follows:—

First year: Freehand mechanical drawing; descriptive geometry; the steam-engine.

Second year: Descriptive geometry; mechanical drawing; applied mechanics.

Third year: Mechanical drawing; mechanics of machinery.

Fourth year: Strength of materials; advanced steam.

The Engineering Laboratory.

Physical tests of all descriptions of materials will be made in the engineering laboratory under the regulations given below.

The tests that can be carried out comprise the following:—

The accurate determination of the qualities (strength, elasticity, ductility, &c.) of wrought-iron, steel, timbers, stones (natural and artificial), and other materials of construction.

The strength of girders, columns, beams, and castings.

The strength of riveted, bolted, cottered, and other joints.

The quality of boiler-plates.

The strength of wires, yarns, cloths, and papers.

The safety of slings, wire ropes, chains, and other hoisting tackle.

The value of lubricating oils under all conditions of working and temperature.

The accuracy of pressure, vacuum, and other gauges.

The calorific and commercial values of fuels.

The quality of cements and concretes.

The efficiency of steam, gas, oil, and other engines.

THE SCHOOL OF MINES, UNIVERSITY OF OTAGO.

This institution was opened for students in the year 1879, but its teaching-staff and equipment were not completed until 1887. It is under the direct control of the Professorial Board of the University, being represented on this Board by the Professor of Mining and Mineralogy, Professor G. H. Ulrich, F.G.S., who, in addition to the duties of his chair, has the function of director of the school in everything that concerns its inner management and working. The director must, however, submit to the consideration of the Professorial Board any changes in the established regulations and plan of instruction which he may consider advisable, as well as the granting of diplomas and certificates to

students; and he has also to prepare an annual report on the work and the results of the school for submission to the Chancellor and Council of the University, which is afterwards forwarded, with the Annual Report of the University, to the Education Department.

For the purposes of the school, lectures and practical instruction are given by five professors and four lecturers in the following subjects: Mathematics, physics (lectures and laboratory practice), theoretical mechanics, applied mechanics, chemistry (lectures and laboratory practice), biology (lectures and laboratory practice), palæontology, general geology, mining geology, mineralogy, petrography, mining, general and special metallurgy, blowpipe analysis, assaying, mine- and land-surveying (with field practice), and drawing, comprising free-hand and mechanical drawing and practical geometry, in which three branches students receive instruction at the Dunedin School of Art.

There are five divisions in the mining school—viz.: I., the mining; II., the metallurgical; III., the geological; IV., the mine- and land-surveying; and V., the assaying divisions—for each of which the courses of study are specially arranged; but mathematics, physics, chemistry, mineralogy, blowpipe analysis, general geology, and drawing, form subjects of study for the students of all divisions. Besides going through the prescribed curricula, students of some of the divisions have also to fulfil certain other requirements—viz., that they produce satisfactory evidence of having for fixed periods been engaged in practical work, and that they obtain certificates of "first aid" by attending a course of ambulance lectures. Thus, students of the mining division have to work for twelve months in metal- and coal-mines; those of the metallurgical division for nine months in ore-dressing and metallurgical works; and those of the surveying division require to be employed for at least six months in the practice of mine- and land-surveying. The producing of "first aid" certificates is compulsory only for students of the mining and metallurgical divisions.

For the mining, metallurgical, and geological divisions the course of study can be completed in three years, and in the surveying and assaying divisions in two years. The session commences, like those of the arts and science courses, in the first week in April, and examinations in the different branches of study are held in the month of October in each year. Students who have successfully passed the examinations in all the subjects prescribed for any of the first three divisions, and have fulfilled the before-mentioned requirements attached to Divisions I. and II. regarding practical work and ambulance certificates, obtain the distinction or title with diploma of "Associate of the University School of Mines of Otago," whilst the successful passing of the examinations in Divisions IV. and V., and compliance with the conditions regarding practical work attached to Division IV. entitles them to receive respectively certificates of "Mining and Land Surveyor" and of "Metallurgical Chemist and Assayer." The number of diplomas and certificates granted up to the present session (1897) is as follows: Thirty-two diplomas of associateship in the mining division, twenty-two in the metallurgical division, eight in the geological division, thirteen in the surveying division, and nineteen in the assaying division. So far as known, all the students who were successful in obtaining these diplomas and certificates have since gained satisfactory positions as mine-managers, geologists, mineralogists, lecturers in mining schools, assayers, &c.

The yearly attendance of students for the first eight years, *i.e.*, up to 1887, was rather poor, owing, no doubt, to the incomplete state of the school, the number never having risen above six; from 1887 to 1895 it varied between sixteen and twenty-six, in 1896 it rose to thirty-eight, and for the present session (1897) it is fifty.

Regarding the teaching facilities and equipment of the school, they are ample for all the subjects included in its plan of instruction. Thus, in physics, chemistry, and biology the school shares the advantages of the large and well-equipped laboratories of the arts and science courses of the University; while for the special mining-school subjects, such as mining, mineralogy, petrography, geology, surveying, metallurgy, and assaying, there are provided collections of geological and mining models, plans, and maps, general and special collections of

minerals, rocks and thin rock-sections, goniometers, microscopes, polariscopes, surveying and levelling instruments, and a machine for cutting and grinding thin sections of rocks for microscopic examination. A small museum, containing the geological and mining models, safety-lamps, plans, maps, and sections, a collection of crystal models, and a number of different collections of mineral, rock, and metallurgical specimens, is daily open to students for inspection and study. The roomy metallurgical laboratory contains five smelting and five cupelling furnaces, seven good balances, and all the appliances and apparatus required for assays and determinations.

By means of a special grant from the Government a complete battery-plant, with three heads of stamps, for the wet-treatment of bulk samples has been erected. There is also a rock-crusher, berdan, and a complete cyanide-plant. The battery and other machines are worked by an 8-h.p. gas-engine. The extraction processes usual on a goldfield can now be practically studied by the students. Samples from one to five tons can now be treated for the public at low charges.

Further important additions have been made recently to the laboratory to provide for the increased number of students.

The special staff of the School consists of the Director, Professor George Henry Frederick Ulrich, F.G.S., Graduate of the Royal School of Mines, Clausthal, Hartz, appointed in 1877; F. B. Stephens, A.O.S.M., Lecturer on Metallurgy and Assaying; Walter Cutten, Lecturer on Applied Mechanics; Matthew Begg, Lecturer on Mine- and Land-surveying; and John Robert Don, M.A., D.Sc., N.Z.

THE SCHOOL OF MEDICINE, UNIVERSITY OF OTAGO.

The School of Medicine of the University of Otago was founded in 1876, when arrangements were made for teaching the subjects belonging to the first two years of a medical course. In 1883 steps were taken to complete the curriculum, and since then the school has been in full working-order. A complete five years' course of instruction is now available for those who wish to pursue their studies in this country; and the degrees in medicine of the University of New Zealand are granted to students of the school on passing the required examinations. A similar full recognition of the courses of study has been accorded by the Royal College of Physicians and Surgeons of England, while the instruction given has been recognised, though not so fully, by the Scottish universities and by the University of Cambridge.

The medical year consists of two sessions—a winter session, extending from May to November, and a summer session, from December to March.

The following is the list of classes:—

Biology	..	..	Practical biology.
Physics	..	..	Practical physics.
Chemistry	..	..	Practical chemistry.
Anatomy	..	..	Practical anatomy.
Physiology	..	..	Practical physiology and histology.
Pathology	..	..	Practical pathology and bacteriology.
Materia medica.			
Surgery	..	..	Clinical surgery.
Medicine	..	..	Clinical medicine.
Midwifery	..	..	Diseases of women.
Medical jurisprudence	..	..	Public health.
Diseases of the eye.			
Mental diseases.			

The Dunedin Hospital is available for the use of teachers and students; and clinical instruction in surgery, medicine, diseases of women, diseases of the eye, &c., is given there daily by the medical and surgical staff.

There are at present between sixty and seventy students attending the various classes.

The Medical Faculty.

Professor Scott (Dean).	Dr. J. Macdonald.
Professor Black.	Dr. W. S. Roberts.
Professor Shand.	Dr. Lindo Ferguson.
Professor W. B. Benham.	Dr. L. S. Barnett.
Dr. D. Colquhoun.	Dr. Truby King.
Dr. F. Ogston.	The Honorary Medical Staff of the
Dr. F. C. Batchelor.	Dunedin Hospital.

Professors and Lecturers in the Medical School.

Date of Appointment.	
1877.	John Halliday Scott, M.D., Edin.; M.R.C.S., Eng.; F.R.S.E.: Dean of the Medical Faculty and Professor of Anatomy and Physiology.
1870.	John Shand, M.A., LL.D., Aberdeen: Professor of Natural Philosophy.
1871.	James Gow Black, M.A., D.Sc., Edin.: Professor of Chemistry.
1898.	William Blaxton Benham, D.Sc., Lond.; M.A., Oxon.: Professor of Biology and Curator of the Museum.
1883.	Daniel Colquhoun, M.D., Lond.; M.R.C.P., Lond.; M.R.C.S., Eng.: Lecturer on the Practice of Medicine.
1886.	Frank Ogston, M.D., C.M., Aberdeen: Lecturer on Medical Jurisprudence and Public Health.
1883.	Ferdinand Campion Batchelor, M.D., Durham; M.R.C.S., Eng.; L.R.C.P., L.M., Edin.; L.S.A.: Lecturer on Midwifery and the Diseases of Women.
1883.	John Macdonald, L.R.C.P. and L.R.C.S., Edin.; L.M.R.C.S., Eng.: Lecturer on Materia Medica.
1885.	William Stewart Roberts, M.R.C.S., Eng.: Lecturer on Pathology.
1886.	Henry Lindo Ferguson, M.A., M.D., Dub.; F.R.C.S.I.; L.K.Q.C.P.I.: Lecturer on Ophthalmology.
1895.	Louis E. Barnett, M.B., C.M., Edin.; F.R.C.S., Eng.: Lecturer on Surgery.
1889.	Frederick Truby King, M.B., C.M., B.Sc., Edin.: Lecturer on Mental Diseases.
	The Honorary Medical and Surgical Staff of the Dunedin Hospital: Lecturers on Clinical Medicine and Clinical Surgery.

CANTERBURY AGRICULTURAL COLLEGE.

Director: J. Bayne, M.A. (Glasg.), B.Sc. in Agri. (Edin.).

Lecturers: Agriculture—The Director. Chemistry, general and agricultural—G. Gray, F.C.S. Natural Science—C. O. Lillie, M.A., B.Sc. (N.Z.). Land-surveying and Levelling, Applied Mathematics and Bookkeeping—C. Coleridge Farr, B.Sc. (Adel.), Assoc. M. Inst. C.E., A.I.E.E. Veterinary Science—J. R. Charlton, M.R.C.V.S. (Lond.), F.E.V.N.S. (Edin.).

The Agricultural College is situated near the township and railway-station of Lincoln, in one of the most beautiful and healthy districts of the Canterbury Plains, and is about fourteen miles by rail from the City of Christchurch.

The institution is supported by endowments of lands, students' fees, and profit of the farm, its object being to afford those intending to look to farming for a livelihood the opportunity of acquiring a thorough knowledge of the science and practice of agriculture.

The buildings are after the Elizabethan style of architecture, and can accommodate at least fifty students, each having a separate bedroom. They also include lecture-, theatre-, and class-rooms, studies, chemical and biological laboratories, library, dining-hall, hospital-room, all necessary offices, and quarters

for the director and for the resident teaching-staff. The laboratories are designed on the most approved principles, and are provided with all the necessary appliances for the conduct of scientific work.

The library contains a good selection of books, chiefly agricultural and scientific, and the reading-room is supplied with the leading agricultural papers and magazines, illustrated weekly, and daily papers. Candidates for admission as resident students cannot be received if under sixteen years of age; those above twenty-one years of age require to obtain the approval of the Chairman of the Board of Governors, on a recommendation from the director of the school. Non-resident students may be received on approval of the Chairman of the Board of Governors, and are admitted to all the advantages of the institution except residence.

No examination is required prior to the admission of a student, but students who have passed the annual examination in chemistry, botany, geology, and mathematics in any of the university colleges, or who may pass in those subjects a preliminary examination conducted at the Agricultural College, may gain the diploma of the college in three terms.

The course of instruction extends over two years, and embraces agriculture and its allied sciences, instruction being imparted by means of lectures in the laboratories, on the farm, and in the garden and orchard. The year is divided into two terms: the first, which is the commencement of the academic year, begins about the 16th January, and ends about the 23rd June; the second begins about the 23rd July, and ends about the 12th December.

The charge for instruction, board, residence, and laundering is £40 per annum, that for non-resident students being £10 10s. per annum.

The Boards of Education of the colony provide a number of scholarships for competition in any of the public schools of the colony, and the holders of these are entitled to be admitted free as resident students to the Agricultural College.

Lectures and practical farm-work are carried on as follows: On one day the first year's students receive lectures, and the second year's students work on the farm; on the following day the second year's students receive lectures, and the first year's students work on the farm; thus each student's time is equally divided between lectures and practical farm-work.

Instruction is given in the following subjects; Scientific work, comprising agriculture, theoretical chemistry, practical chemistry, agricultural chemistry, theoretical agricultural botany, practical agricultural botany, economic entomology, physiography; land-surveying, levelling, plotting, mechanical drawing, applied mechanics, book-keeping; veterinary science. Practical farm-work, comprising milking, horse-grooming, ditching, hedging, ploughing, shearing, harvesting, threshing, practical knowledge of live-stock, culture of fruit and vegetables, apiculture, dairy-work, carpentry, farriery, &c. To obtain the diploma of the College students must pass an examination in each of these subjects.

Examinations are held as follows: (a) once a week in one subject; (b) in June, upon the work of the first term; (c) in December, upon the work of the whole year. A diploma is granted by the College to students who, at the end of their second year, obtain the required number of marks at the annual examination, this diploma being the highest distinction conferred by the College.

Reports are issued twice a year to parents and guardians, containing the fullest information as to the conduct and progress of the student.

The farm on which students receive their practical instruction is 710 acres in extent, and has been so selected as to comprise soils of various qualities, from rich swamp to comparatively light and thin soil overlying shingle. The farming is carried on as nearly as possible on economic principles, and in illustration of the teaching of the lecture room. The farm-buildings and stock-yards have been planned to be as complete as possible, whilst including only such accommodation as it is thought will be ordinarily required in the colony. The farm-plant contains all the most modern implements for the cultivation of the soil; also the most modern machines for the harvesting, securing, and marketing of crops.

Students are required to take part in the regular daily work of the farm, so as to acquire a practical knowledge of every kind of farm-work, the use of implements and machinery, the management of stock, milking, and the making of cheese and butter.

Work in the garden and orchard is also required, in the growing of vegetables, in the treatment of fruit-trees, &c.

Field experiments are carried out, especially in testing the value of different methods of cultivation and rotations, the effects of different artificial manures on various crops, the suitability and comparative worth of new varieties of cereals, fodder-plants, and roots that promise to be of use to the farmer, and in such other directions as may appear desirable and practicable.

Work is also carried on in the chemical laboratory. In illustrating the teachings of the lecture theatre, agricultural specimens are as frequently as possible used. Students, during their term of residence, proceed from the testing of simple substances to the quantitative analysis of manures, soils, foods, and farm and dairy produce generally. Biological laboratory work includes: Use of the microscope and the preparation of microscopic objects; examination of rust, smut, and other injurious fungi; germination of seeds under various conditions; examination of the minute anatomy of plants; cells and cell contents; diffusion of fluids in plants; rate of growth, fertilisation, maturation of seeds, &c.; organic impurities in water, &c.; the minute anatomy of injurious insects; field investigations in the life-history of injurious insects and fungi; adulteration of seeds.

In land-surveying and levelling, field-work will be undertaken at suitable times for practice in the use of instruments, in measuring land, harvest and other piece-work, and in taking levels for drainage purposes, the results of field-work being plotted, and plans drawn.

The carpenter's and blacksmith's shops are furnished with the necessary appliances. Students take their turn at work with the carpenter and blacksmith, so that they obtain practical instruction in both rough carpentry and farriery, as far as these are carried out on the farm. Students are required, under supervision of the lecturer, to personally examine animals as to soundness, and to point out the various seats of disease and nature of diseased parts. They are also required to make *post-mortem* examinations, and to make themselves proficient in the various methods of securing animals for different kinds of operations.

Finally, the Agricultural College is one of the best institutions of the kind in the Australasian Colonies, and from the above it will be seen that it would be difficult to find any other where young men could acquire a more thorough knowledge of the principles of the science of agriculture, together with a better practical training in the art.

SECTION II.

AGRICULTURE.

By M. MURPHY, F.L.S.

It is generally admitted that there is no part of the British dominions where agriculture, in its widest sense, can be carried on with so much certainty and with such good results as in New Zealand. The range of latitude, extending as it does from 34° to 47° south, secures for the colony a diversity of climate which renders it suitable for all the products of subtropical and temperate zones, while an insular position protects it from the continuous and parching droughts which periodically inflict such terrible losses on the agriculturist and pastoralist of Australia and South America.

Again, the climate, although somewhat variable, never reaches the extremes of heat or cold. So genial, indeed, is it that most animals and plants, when first introduced to the colony, assume a vigour unknown to them before.

NORTH ISLAND.

All the best forage-plants and grasses thrive most admirably, continuing to grow throughout the year with little intermission. Stock of every sort thrive and fatten rapidly on the pastures, coming to maturity at an early age without the aid of roots or condimental foods. All cereals flourish equally well, more especially Indian corn, which produces from fifty to eighty bushels per acre.

So full is the soil of plant-food that several continuous crops of potatoes or cereals may be taken with little apparent exhaustion. Wheat, oats, and barley thrive where the soil is not too rich; otherwise they produce enormous crops of straw, without a corresponding yield of corn. The tobacco-plant thrives well, as do also hops and sorghum, broom-corn, peanut, hemp, ramee or rhea (China grass), together with a large variety of economic plants, the growth of which will one day afford employment for a large population. In addition to these, all the British, Chinese, and Japanese fruits, with oranges, lemons, limes, olives, and vines (in the northern part), flourish abundantly, requiring but ordinary care. Potatoes are largely grown, and yield heavy crops.

Much of the country along the south-west and west coast is being rapidly taken up, and the primeval forest is fast disappearing before the settler's axe. For the most part, the soil is fertile, and the growth of grass and clover is extremely rapid and vigorous when sown on the surface after the felled timber has been destroyed by fire.

To the British husbandman it will seem almost incredible that the best pasture-grasses grow and thrive as they do with no other preparation than the ashes resulting from the burnt timber, with no ploughing and no previous loosening of the soil—this, of course, being impossible amongst the forest of stumps—and yet, in less than a year from the date of scattering the seed, this same land will fatten from five to six sheep per acre.

So rapidly are these fertile forest-lands being cleared and converted into pastures that the demand for stock (principally dairy) has greatly increased, and this demand must continue for a series of years before it is fully met.

Before the introduction of the factory system stock was so unsaleable, especially in the North Island, that little or no attention was paid to this branch of rural economy, and the supply fell to the lowest ebb. The demand which has now set in is chiefly due to the settlement of the bush-lands with small selectors and the development of the dairy industry.

Those who in the past have watched the progress of New Zealand, especially of the North Island, have always maintained that when the Maori difficulties and other impediments to settlement were over, the prosperity of the country would advance at a very rapid rate. The time has now come, and all that is required to expedite the coming prosperity is the settlement of our lands by a thrifty class of settlers.

There are millions of acres yet unoccupied, a great portion of which is of good quality, and only waiting the hand of man to make it carry, with very little cost, large herds of dairy stock, with flocks of long-wool and crossbred sheep. The west coast of the island is essentially a cattle-country. Considerable areas in the midland districts are adapted to long-wool sheep, as is also the country along the east coast. Much of the country may be described as being good sheep-land, a large portion of which is quite capable of carrying two sheep to the acre, and some of it as many as three or four.

MIDDLE ISLAND.

If the North Island has a splendid inheritance in her forests, the Middle Island can boast of her magnificent plain-lands, rolling downs, and vast mountain ranges, all of which, to a greater or less degree, have already been made to contribute to the wealth of the colony.

The central portion of the Middle Island presented to the first-comers a vast plain, covered only with waving tussock-grass, offering little or no obstruction to the plough.

Travelling south, the country assumes a different character: easy, undulating downs, well watered, here and there interspersed with fertile plains, the greater portion admirably adapted for agriculture, and all of it suitable for pastoral purposes.

The climate of the Middle Island is not so warm in summer nor

so mild in winter as that experienced in the North Island. However, as has already been stated, there are no extremes of heat or cold. Much more might be said in praise of this portion of the colony. It is deemed necessary to say so much in order that readers may better comprehend the comparative ease with which every kind of farming is carried on in New Zealand as compared with other countries less favourably situated.

AGRICULTURAL STATISTICS.

Full particulars, with comparative tables showing the progress of agriculture in the colony, will be found in the statistical portion of this work, at pages 405 to 416.

WHEAT.

In the last issue of the Year-book reference was made to the brightening prospects for those engaged in growing wheat. A slight advance in prices took place, which encouraged farmers to largely increase the area under this cereal. A most favourable season was experienced at early seed-time, which enabled the crop to be got in under the best conditions. The ensuing spring and summer, however, so far as Canterbury and North Otago were concerned, proved to be abnormally dry, so much so that large areas of wheat, oats, and barley resulted in a partial and, in some cases, in total failure, stock being turned into them. It must not, however, be concluded that the drought was general over the districts referred to. Occasional showers visited some few districts, which had the usual beneficial results: thus, while the average yield of wheat in the drier districts represented from 4 to 8 bushels per acre, there were others which yielded from 30 to 50 bushels. The swamp-lands in many cases resulted favourably. Again, the material advance in the price of wheat in a measure compensated growers for short yields. A reference to the Year-book for 1897, page 409, will show that the shortage in the crop of 1896-97, owing to partial drought, was also compensated for by an advance in price. The average yield for that year was set down at 23 bushels, while that of 1897-98 cannot be estimated at more than 15 bushels for Canterbury and North Otago, the great wheat-growing areas of the colony. In South Otago and Southland the rainfall was more abundant, and the wheat—and, indeed, all the other crops—showed a much better result. Wheat is not largely grown in these districts, but this is more than compensated for by the splendid average yield of oats secured. In the Tapanui district (Otago) a paddock of 30 acres of wheat yielded $74\frac{1}{2}$ bushels per acre of the variety known as "Perfection."

It is pleasing to note that an ample rainfall has taken place in Canterbury and in North Otago, enabling the work of sowing wheat to be carried on extensively. Pastures have also been greatly benefited. Prices realised for the crop of 1897-98 have induced farmers to sow larger areas than usual. What will be the state

of the wheat market next season is a problem which time alone can solve.

The Canterbury Plains, the great wheat-growing district of the Middle Island, extend 150 miles north and south, running inland from the sea for forty miles, the whole forming an area of about 3,000,000 acres. A great portion of this vast plain is admirably adapted for the production of wheat, barley, and oats of the best quality, the growing of which has been carried on extensively, more especially since the introduction of the reaper-and-binder. The total area under wheat for threshing in the colony for the season 1897-98 was 315,801 acres, of which 200,992 acres were grown in Canterbury, the average yields being approximately 15 bushels per acre. The land is for the most part free from stones or impediments of any kind. Single-furrow ploughs are now rarely seen, double- and three-furrow ploughs being in general use. Three horses, occasionally four, with a man or a boy, can turn over three acres per day on the plains, at a cost of 5s. or 6s. per acre. A stroke of the disc or other harrow, followed by the seed-drill and light harrows, completes the operation of sowing.

Seed-sowing commences in May, and can be continued as weather permits through the winter, and in the heavy swamp-land (drained) on into September and even October. From $1\frac{1}{2}$ to $1\frac{3}{4}$ and 2 bushels of seed per acre are usually sown, the quantity increasing as the season advances.

Good results are in general obtained by feeding-off the early-sown grain with sheep, followed by the harrows and roller. The average yield on the better class of soil in favourable seasons is from 40 to 60 bushels per acre of dressed grain. The usual general average for the whole colony may be set down at 23 to 28 bushels, according to the season. It must also be stated that the small-bird nuisance (principally the English sparrow) reduces the average by at least 2 to 3 bushels per acre of wheat, oats, and barley. As a set-off against this, however, the destruction of caterpillars and seeds of weeds must be credited to these feathered marauders. Another cause for low averages is the fact that wheat is sown on land entirely too light in quality for that cereal. It will, however, be noted that the general average yield of all our cereals is higher than that of most other countries except that of Britain herself.

Several varieties of wheat are grown, but Hunter's White, Pearl, and Velvet Chaff are the favourite kinds for winter sowing. Red and White Tuscan are usually sown in spring. Extensive experiments are being carried on in New South Wales as to the merits of various classes of wheats, the produce of cross-bred varieties. It will be interesting to note the results. The authorities at the Canterbury Agricultural College imported a large number of these cross-bred wheats from Australia, which are now under observation; if carefully tested, and the results as carefully noted, the final report will be of much interest, and may perhaps result in the addition of one or more varieties to those already in cultivation.

In view of the periodical attacks of rust, advantage will doubtless be taken of the experience gained by carefully-conducted experiments which have been carried on during the past few years in Victoria, New South Wales, and Queensland, where it is claimed that certain wheats have been found impervious to the attacks of rust, thus minimising the losses caused by that fungus. But farmers will do well to receive with caution reports as to the rust-resisting qualities of one wheat as compared with another. Periodically varieties are introduced with every assurance of their rust-resisting qualities, but as often have they failed to realise what was claimed for them. A really rust-resisting wheat would be of untold value to humanity. It would be quite impossible to estimate the losses caused by this disease; its ravages have existed with varying intensity from time immemorial. It was reported that early sowing was the best preventive measure, for the reason that the older the leaves are the tougher they become, rendering them less liable to attack from rust spores. This theory, however, has not been borne out by actual observation in this colony, as early-sown crops are also sometimes attacked, if not severely.

Dressing the seed with genuine bluestone is found to be a certain specific for smut in its various forms.

The Oamaru (North Otago) district is famous for the quality of its wheat, grown on limestone soil.

OATS AND BARLEY.

Otago and Southland districts excel in the production of oats, which is their principal cereal crop, the respective acreages last season being 80,445 acres of wheat, yielding 1,776,595 bushels, and 196,946 acres of oats, yielding 6,169,717 bushels.

The usual yield of oats in Otago and Southland is from 40 to 80 bushels per acre, the cost of production being about the same as wheat—viz., £2 per acre when grown from grass-land, and £1 10s. from stubble. The varieties of oats most in favour are Sparrowbill, Winter Dun, Canadian, Tartary, and Danish.

Malting barley, of very superior quality, is grown in Nelson and Marlborough, where the soil and climate appear to be particularly adapted to its culture.

REMARKS ON CEREALS.

Observers of passing events, as affecting rural affairs, must have noted that corn-growing, like that of any other industry, has its cycles of depression, followed by others of prosperity. A few years ago it was predicted that profitable wheat-growing had come to an end in this colony, and indeed it appeared like it when wheat fell to 2s. and 2s. 6d. per bushel. The acceptance of this theory gave an impetus to the cultivation of turnips, rape, barley, oats, peas, &c., for feeding sheep, lambs, and pigs, from which a more certain return could be secured, while large areas of formerly cultivated land reverted to pasture for grazing purposes. The manufacture of

cheese and butter also received a lasting stimulus. The curtailment of the wheat area referred to was, indeed, by no means an unmixed evil, for had farmers gone on cropping indiscriminately, our fields would not only have become exhausted, but they would have been polluted with weeds to an irrecoverable extent. Farmers have come to see that a mixed system is the only safe course to pursue now in the management of their land. The late rise in cereals has given an all-round stimulus to farming, a greater demand for farm-horses, and a corresponding rise in prices; an increased demand for farm implements, farm hands, seeds, &c., and a decided rise in the value of good agricultural lands.

ROOT-CROPS.

Potatoes : Potatoes are largely grown throughout New Zealand. On suitable soils very heavy crops are raised, it being no uncommon thing to dig from 8 to 10 tons per acre, although the general average is much lower, for the reason that unsuitable land is frequently devoted to this crop. The bulk of the crop is planted without manure, but, where used, bonedust, superphosphate, blood-manure, or animal guano (which may be procured of first quality from the local manure manufactories), from 1 cwt. to 2 cwt. per acre, is applied with good results. The potato is, however, an expensive crop to grow, costing from £5 to £6 per acre. The year 1898 will be long remembered as a record one for potato-growers as regards prices. The drought which affected several of the Australian Colonies caused a great shortage in that esculent. The crops in Canterbury and Otago suffered severely also, except in localities where occasional showers occurred and in reclaimed peat-swamps. The crop for 1898 averaged from 2 tons to 10 tons per acre, and in some few instances 12 tons. The prices prevailing in ordinary seasons range from 25s. to 30s. and £2 per ton. The prices realised for the crop of 1898 opened with £3 10s. per ton, and continued to advance steadily until £8 per ton was reached. Several instances are on record of farmers realising as much as £60 per acre for their crop. This is, of course, exceptional, but it had the effect of making the general average yield about equal to that of an ordinary season from a money-value point of view.

Land for potatoes is usually broken out of grass, skim-ploughed in autumn, ploughed deeply in spring, and thoroughly tilled; or potatoes may be grown in drills opened and closed with a double-furrow plough. The seed—15 cwt. per acre—is then ploughed in under every third furrow, the after-culture consisting of harrowing just as the crop is appearing over ground (by this means myriads of seedling weeds are destroyed); drill-grubbing, hoeing, horse-hoeing, and earthing-up being the subsequent operations. Heavy crops of wheat, oats, barley, beans, or peas can always be relied upon after potatoes, season permitting.

Turnips : The turnip-crop throughout those districts affected by the drought already referred to has suffered severely, resulting in

total loss over wide areas. This is all the more serious for the reason that the supply of fat sheep to feed the freezing factories largely depends on the abundance or otherwise of this crop, which has become one of the most important in the colony. The area under turnips for 1898, according to the agricultural statistics, is 393,451 acres.

On virgin soil turnips can always be relied upon as a certain crop without any manure, even with a single furrow and a couple of strokes of the harrow. But, as most of the land (at least in the Middle Island) has already been cropped, turnips cannot now be successfully grown without the aid of manure. In the nature of things, from a climatic point of view, farm-yard manure cannot be procured in sufficient quantity; artificial manures are therefore largely used, from 1 cwt. to $1\frac{1}{2}$ cwt. of superphosphate of lime per acre being now applied with the best results, securing ample crops of sound roots, from 15 to 30 tons per acre. The seed is sometimes sown in drills on the flat, the manure being dropped in front of the seed by the same machine, from $\frac{1}{2}$ lb. to 1 lb. of seed per acre being used; when sown broadcast a smaller quantity will suffice. Sometimes the manure is deposited in a liquid state by machines manufactured for the purpose, called water-drills. This system invariably secures a rapid and vigorous braird, forcing the young plant into the rough leaf, after which it is secure from the attack of the turnip-beetle, usually the first enemy of the young plant's growth. So soon as the turnip-plants reach the third or fourth leaf, they are thinned by a scuffer, made for the purpose, which is drawn across the drills, bunching the turnips and thoroughly loosening the soil. The drill-grubber and scuffer are used as required till the leaves meet. This kind of culture produces capital crops at a minimum of cost. In Otago and Southland, where Swede turnips are largely grown, the seed is sown in drills and the young plants are thinned out with the hand-hoe in the same manner as the mangold crop is treated in Canterbury and elsewhere. Large areas are sown broadcast, and, if found too thick, the harrows are run through them; in any case, a stroke of the harrows is a great help in promoting the growth of the plant. The varieties used are Devonshire Grey for early and very late sowing; Purple- and Green-top Aberdeen are the most generally grown. Swede turnips, from their proneness to the attack of the turnip aphis, are not so much grown, though they produce enormous crops in Otago and Southland, where the climate is more suitable. The turnip-crop is generally fed off by sheep intended for freezing. It is estimated that an acre of good turnips, with a little hay or oat-chaff, will fatten from eight to fourteen sheep. Turnip-sowing commences in November, and may be continued till the end of December. Stubble turnips may be sown in March, but this can only be considered as a catch-crop. It, however, often proves of great value, supplying an abundance of green food for ewes with early lambs. Turnip-land is usually sown with oats or barley, and sometimes spring wheat.

Rape is largely grown as sheep-feed, and may be sown either in early spring or immediately after harvest, the stubble being skim-ploughed or broken up with the spring-tined cultivator. This crop is invaluable in the early spring, and may be fed-off in time for oats or barley. Dairy-cattle, however, should not be fed on rape, as doing so destroys the flavour of the milk.

Mangolds and Carrots are largely grown in some districts. They cost more money per acre than turnips to produce, as they must be hand-hoed; nor are they so suitable a crop for cleaning the land. Turnip-sowing does not commence till November or December, affording ample time for the destruction of seedling weeds; this important opportunity is largely lost in the culture of the mangold, which is usually sown in October. Mangolds are, however, an invaluable crop on a stock-farm, as they do not reach their prime condition until the turnip-supply is exhausted, usually in August. From 30 to 60 tons per acre is not an uncommon yield of these roots, often without the aid of manure, on rich swamp land.

Carrots are also a valuable crop, especially for horses; on sandy loams the yield reaches 15 to 20 tons per acre. Carrots impart a pleasant flavour to butter, and should be largely grown for dairy stock.

FERTILISERS.

Another industry of growing importance has been called into existence: the manufacture of fertilisers, from the waste products of animals slaughtered for freezing. The demand for fertilisers must increase from year to year, as our lands become more frequently cropped. In the early days of the freezing industry, when the demand for turnips became general, the native-grass land (tussock) was then in its natural state. All that was necessary was to turn this virgin soil over with a shallow furrow, harrow down, and sow the seed (a few ounces) to the acre, without any fertiliser whatever. A good crop was the inevitable result.

The plough has been over almost the whole of our available new lands. It is now found absolutely necessary to sow fertilisers with the seed to give the young plant a start. Assuming that $1\frac{1}{2}$ cwt. per acre is used all over the 500,000 acres in root-crops, this would mean an annual demand for 37,500 tons, without taking into consideration that used for grain, orchards, &c. One of the most practical farmers in New Zealand has, however, given it as his opinion that, with a proper course of rotation, it will be many years before it will be necessary to apply fertilisers to corn crops—except, indeed, in exceptional cases. Experiments have been made with a view to testing how far fertilisers may be used for raising wheat on the thinner soils of the colony, with varying success. In some cases it has been demonstrated that the application of a nitrogenous manure resulted in an increased yield sufficient to justify the additional outlay per acre, in others the result was not favourable; however, the season has much to do with results from such experiments. The lack of moisture will nullify the good which might

otherwise follow the application of fertilisers whether to root or cereal crops:

Notwithstanding the quantity of fertilisers manufactured in the colony, importations are made, principally from Australia. Mr. G. Gray, Lecturer on Chemistry at Lincoln Agricultural College, in a paper on "Soil Fertility" shows that the land is drained annually of 5,871 tons of nitrogen, 1,000 tons of phosphates, 2,438 tons of potash; and 1,006 tons of lime: so that there is room for still further enterprise in the manufacture of manures.

A fortune awaits the finder of extensive beds of coprolites in New Zealand. Traces have been discovered sufficient to awaken the hope that sooner or later payable deposits will be found.

SEEDS.

Clover: Saving clover for seed has now become an established and a lucrative industry, adding materially to the farmers' income. Clover is sown with a spring crop, usually of corn, lightly grazed in the following autumn, and then reserved for a crop of hay, which, according to the season, yields from 2 to 3 tons per acre when cut in November or early in December. Some farmers prefer feeding off with sheep in preference to mowing for hay. The after-growth is then allowed to flower and seed, which it does very freely. Thousands of humble-bees may be seen in the clover-fields during the months of January, February, and March. The seed ripens in March, and is then cut and dried, and threshed out by machines known as clover-shellors. An acre of clover may yield in hay and seed from £8 to £10. It must, however, be stated that, while a good crop of clover-seed is a most lucrative one, it is nevertheless a most precarious one. Owing to the lateness of the season of ripening, it sometimes happens that the fertilisation is imperfect, resulting in a majority of barren heads. This has given rise to a controversy as to whether the proper bee has been introduced. The point was referred to Miss Ormerod, the English entomologist, who settled the question in the affirmative.

White and alsike clover are now grown in considerable quantities. White clover yields enormously: as much as 300 lb. of alsike seed has been obtained per acre. These clovers are not so dependent on the action of the humble-bee for their fertilisation. They mature earlier, and are more easily threshed and cleaned than cow-grass and red clover.

Grass-seed Saving: All the most valuable British grasses flourish throughout New Zealand. Cocksfoot has been for many years a staple product of Banks Peninsula (Akaroa County), where the soil for the most part consists of decomposed volcanic rocks and vegetable mould. Large quantities of this seed are now raised in the North Island as well. The seed is of the finest description, frequently weighing 20 lb. to the bushel, 12 lb. being a standard bushel. Cocksfoot thrives on a very wide range of soil, from the richest to the poorest, preferring, of course, the former. It may be

found on the dry stony plains of the interior, green and healthy, when the surrounding herbage, introduced or indigenous, has yielded to the heat of the summer sun.

Growing ryegrass for seed is also an important industry. The seed is usually gathered by stripping; sometimes the grass is cut and tied and afterwards threshed by machinery. The average yield is from 15 to 20 bushels per acre, weighing from 25 lb. to 32 lb. per bushel, 20 lb. being the standard weight. A common practice is to graze the land till midsummer; to take the stock off for a few weeks, and then to run the stripper over the ground. By this primitive method 10 bushels per acre are sometimes secured, being of the finest quality. Ryegrass-seed is usually in good demand, and sells readily at from 3s. to 4s. per bushel.

Meadow fescue, one of the most valuable of all the grasses for permanent pasture on good land, is grown both in the North and Middle Islands, but as yet not very largely. A noticeable instance of the value of this grass for pasture purposes was illustrated in a paddock which came under the writer's notice. The paddock was laid off into three equal parts, and sown with perennial ryegrass, meadow fescue, and Italian ryegrass. When well grown, sheep were turned in. They at once commenced to feed on the fescue, eating it quite bare, while the perennial ryegrass was left almost untouched. The Italian ryegrass received considerable attention. The preference for the fescue was very marked. Growing grass-seed of all the finer kinds should be an important industry in New Zealand, but as yet very little attention is paid to it. All that is required is to select clean land and clean seed to commence with. At the recent Agricultural Conference held in Christchurch, Mr. Kirk, Government Biologist, read an analysis of grass-seeds tested by him in the Government Laboratory, which showed that many of the samples fell far short of the required percentage of germination. Several of the samples tested were imported seeds; still others, colonial-grown, showed very low germinating power. With carefully grown colonial seeds this should not occur. Carefully conducted, the seed-growing business should prove a lucrative one.

Small Seeds: New Zealand, from the nature of her soil and climate, offers a fine field for growing all kinds of farm and garden seeds. This circumstance has already attracted the attention of some of the larger seed-merchants of Great Britain, whose agents occasionally visit the colony with a view to inducing farmers and others to grow certain kinds of seeds. The industry is peculiarly adapted to small holdings, and well suited to young persons, the work being light and of an interesting character. Ready sale can be found for carefully-grown and carefully-cleaned garden seeds.

OTHER CROPS.

Pulse: Peas and beans are largely grown for pig-feeding and for export; they form an excellent preparation for wheat. An extensive trade in peas of a certain description is done in the manufacturing

towns of Great Britain; and efforts are now being made to secure a share of this trade for the colony by producing peas suitable for splitting for human food. The business should prove a most remunerative one. Thirty bushels of peas are considered a fair crop, while 40 to 70 bushels of beans are often secured.

Cape Barley and Winter Oats: The demand for early-spring feed has resulted in the growing of these plants for forage. Their extreme hardiness renders them well adapted for autumn sowing. If sown in March they are ready for feeding-off in May; they may be fed off again in July, and on till the beginning of October, when, if allowed to run to seed, they will produce 40 to 60 bushels per acre, or they may be ploughed in for turnips.

Tares are also grown, but not so largely as they deserve to be, especially for dairy stock. Mixed with oats, barley, or rye, they are excellent milk-producers; and when grown luxuriantly they destroy all kinds of weeds, and leave the land in fine condition for a spring corn-crop.

Lucerne: This permanent fodder-plant thrives admirably in most parts of New Zealand, yielding three to five cuttings in the year; and, if properly attended to, it will continue to yield liberal cuttings for seven or eight years. This is a most excellent crop for the small or large farmer, furnishing, as it does, an abundant supply of succulent fodder, in deeply-cultivated soils, during the drier months of midsummer, as well as in the early spring. All farm animals are partial to lucerne; pigs thrive admirably upon it. No farm should be without a well cultivated plot of this plant. The writer had a field of lucerne, grown in trenched land, and top-dressed with fine lime dust in August of last year. During the past summer, notwithstanding the hot, dry weather experienced, five cuttings were secured, four of which averaged 2 ft. high at each time of cutting; the last cutting averaged 18 in. The crop was not watered, thus showing how suitable this plant is for fodder purposes during long hot and dry weather, provided, of course, that it has been well treated.

EUROPEAN FLAX.

The cultivation of European flax has not been extended in the colony. Inducements have from time to time been held out to grow it for seed for crushing purposes. Flax is an exhausting crop when grown for seed only. Farmers are not partial to this crop, for the reason that it leaves no edible straw behind it for the use of stock during the winter months. It is also an encourager of weeds, as the land has to be reduced to a fine tilth for the reception of the seed.

Efforts were made some time ago to establish the European flax industry in Canterbury when wheat-growing was unprofitable owing to the low price. The attempt failed, in consequence of the want of expert knowledge, coupled with the high price of labour. It was, however, amply demonstrated that the soil of Canterbury was admirably adapted for its growth. It was found to yield 15 to 30 bushels of seed per acre, while the straw produced the finest of fibre.

The industry will, doubtless, one day be an important one, when the population is much greater than it is at present. Farmers should, however, grow a patch of linseed for feeding calves and pigs, &c.

SUGAR-BEET.

A great diversity of opinion prevails on the question of introducing this industry into the colony. Strenuous efforts are still being made in the Waikato District to establish the industry, but, notwithstanding liberal bonuses and other encouragements offered by the Government from time to time during the past twenty years, the industry has not advanced beyond the initiatory stage. No doubt the promoters in Waikato have satisfied themselves that a sufficient quantity of roots could be grown, containing a payable percentage of saccharine matter, to warrant the extensive cultivation of this plant; but a well-organised system of testing every farming district in the colony as to its suitability for growing the most approved varieties of beets, producing the maximum of saccharine matter, is needed. The advocates of this industry in New Zealand may, however, derive encouragement and hope from what is being done in Victoria. The Government have advanced, on the most favourable conditions, £50,000 towards establishing the industry. £25,000 have been subscribed by local enterprise. A spacious factory has been erected at Maffra at a cost of £25,000; the plant, which is of the most modern pattern, cost £40,000. The work of crushing was commenced in April last; 200 hands (men and boys) are employed, the weekly wage-bill amounting to £400. Already 400 tons of sugar have been sold at good paying prices. It is said to be of first-rate quality. The farmers who grow the beet are also shareholders. The crushed pulp, after the saccharine matter has been extracted, is taken by the suppliers for feeding dairy cattle. One thousand seven hundred acres were grown last season. It is confidently anticipated that a much larger area will be placed under beets this coming season. The factory is capable of crushing 350 tons per day of twenty-four hours. The machinery is kept going night and day. The Waikato farmers will here have an object lesson which should be of the greatest value to them in guiding their future action in the direction of establishing this industry in their district.

IRRIGATION.

The losses inflicted on farmers and pastoralists owing to the partial drought which has prevailed in Canterbury and North Otago during the years 1896 and 1897, and up to May of this year (1898), has given rise to the question—viz., how best the waters of our rivers and great inland reservoirs (in the shape of lakes) could be made to contribute the necessary amount of water to the thirsty soil during times of drought. The Ashburton County Council have been experimenting with water for some years past. They have recently secured the right to raise a loan sufficient to carry out extensive irrigation works. The Canterbury Agricultural and Pastoral Asso-

ciation, alive to the importance of the question, summoned a meeting of delegates from the various County Councils, Road Boards, and Agricultural and Pastoral Associations to discuss the matter and devise means for promoting the end in view. Several representative meetings were held, resolutions were passed, and finally a Bill was drafted for presentation to Parliament; praying that the necessary amendments might be made in the present Water-supply Act, increasing the powers of local bodies and enabling them to deal directly with the question of irrigation. No one questions the advantage to be derived from the judicious application of water to growing crops. The question is its economic application. It is not proposed that irrigation should be carried on over large areas of country, but rather that farmers should proceed cautiously, at first irrigating a few acres about the homestead, the orchard, the garden, and the clover-crops, extending to the root-crops, and ultimately to the cereals and grass-lands. Several papers on irrigation were laid on the table at the recent Agricultural Conference, detailing the experience of the writers, most of whom have had considerable practical experience of the subject on the Canterbury Plains, notably Mr. McGregor, of Norwood, who has used water rather extensively during the past dry summers. His farm has been described as the one green patch for miles on every side of him.

At Acton, one of the estates of the New Zealand and Australian Land Company, situated at Rakaia, 400 acres are annually watered, principally grass and clover, at a cost for labour of 2s. 6d. per acre. The results are said to be most satisfactory. The extra feed secured from the 400 acres of watered grass has enabled the management to dispose of 9,000 fat lambs per annum, half of which would otherwise have to be sold as stores at half the price realised for the fat ones.

Irrigation by wind-power presents many attractive features, especially for those districts which cannot be worked as part of a general scheme. In America this system is largely resorted to, with beneficial results. An excellent paper on irrigation by wind-power was laid on the table at the recent Agricultural Conference, in which it was stated that a plant costing £50 would suffice to water 25 acres of ground; interest and depreciation would amount to 4s. per acre. Moreover, it was pointed out that a windmill could be made to earn a considerable sum by gearing it to a chaffcutter, crusher, or other machinery, and so utilise the power when not required for pumping. The consensus of opinion appears to favour the notion that irrigation is more applicable to small holdings, where the work can be done by the farmer and his own family, rather than for extensive holdings where much manual labour would have to be employed. It is argued by some that, except in exceptional seasons, the rainfall of Canterbury, and indeed of the whole of New Zealand, is sufficient for our requirements. To a certain extent this view is correct; but, on the other hand, observers will admit that there are periods in every season, varying in duration, when water could be used with the greatest advantage. There is little doubt but that the farmers

of Canterbury alone have lost more bushels of corn and acres of green crops and grass during the last two dry seasons than would probably pay for the whole outlay required to bring a sufficient supply of water into the plains for irrigation purposes.

COST OF WORKING A FARM IN NEW ZEALAND.

When comparing the cost of working a farm in England with one of the same size in the colony, several points have to be taken into account, such as the climate, the soil, labour, and machinery. In the colonies wages are higher than in Britain; as a set-off against this, the colony can claim, firstly, that there are more fine working days in the year, that the fields are much larger, that the latest improvements in machinery have been introduced, that the soil is more easily worked, and that the genial nature of the climate renders it unnecessary to house stock during the winter months, at least in the North Island, thus saving the cost of attendance; secondly, that farming operations may be carried on continuously throughout the ploughing and sowing season; and, thirdly, that the paddocks are so large, and usually so level, that the double- and treble-furrow plough may be worked by one man or youth with three horses, thus equalising the cost of labour, as we have shown that one man, or even a boy, will be quite equal to two men or boys in the Old Country, so that after all the difference in the rate of wages is not so great as might appear at first sight.

The hay-crop is simply cut one day, raked into windrows the next, and in a couple more it is ready for stacking.

Wheat is cut and tied by machinery, the stooks requiring no capping. It is frequently threshed out of the stook in favourable seasons, thereby saving the cost of stacking and thatching; but this method is not recommended except in hot, dry seasons. When stacked, the stacks are rarely thatched, except, perhaps, on the weather side. This is a wise precaution, the neglect of which sometimes entails serious loss.

The manure bill, which is such a heavy item of annual expenditure with the British farmer, presses as yet very lightly on the farmers of the colony. It is, however, a notable fact that the use of fertilisers is becoming more general; 1 cwt. to $1\frac{1}{2}$ cwt. of superphosphates per acre is used with the turnip and other root-crops, for the purpose of forcing the young plant into the rough leaf, when it will be out of one danger—the turnip-fly. It will nevertheless be seen that the colonial farmer has many advantages over the farmer of the Old Country.

LIVE STOCK.

Cattle.—The total number of cattle in the colony was 1,209,165 for 1898, as against 1,138,067 for 1897, showing an increase of 71,098, of which number dairying can claim an increase of 28,677.

Horses.—Horses have increased by 2,980, the increase being for the most part in light ordinary stock. This is mainly owing to the increased area under cultivation.

Sheep.—If any evidence was required to show how splendidly New Zealand is adapted for the production of sheep, it would be found in the fact that, notwithstanding the abnormal drought in the chief centres of sheep-farming, there has, according to the latest returns, been a considerable increase. This is all the more remarkable when it is considered that 1,653,170 sheep were frozen in 1897 as well as 1,038,316 lambs.

Pigs.—The stock of pigs, according to the last returns, is set down at 186,027 (of which 33,204 are raised in Canterbury) as against 209,834 in 1897, showing a decrease of 23,807. This unsatisfactory state of things can only be accounted for by the drought (which chiefly affected Canterbury), the scarcity of green feed, and the high price of corn combined.

SHEEP.

Sheep: New Zealand has proved itself admirably adapted for the breeding of all classes of sheep, from the fine-combing merino to the strongest type of Lincoln. The merino occupies and thrives on the wild lands of the colony, from the snow-line to the border of the plains, as well as on the drier portions of the plains. The merino ewe furnishes the foundation for all the crossbred varieties. On the rich moist soils the Lincoln and Romney Marsh sheep flourish, while the finer English and Border Leicesters occupy the drier lands.

Crossbred Sheep: Those bred from merino ewes and longwool rams, or from crossbred ewes with Down rams, are the most suitable for the frozen-meat trade, and are known as "freezers."

The dapper little Southdowns flourish wherever crossbreds thrive. Their more ponderous cousins, the Shropshire and Hampshire Downs, have their admirers, especially the Shropshire, which are largely used for crossing, with a view to producing early-maturing lambs. English Leicesters are also much sought after for this purpose, particularly in the Middle Island, where "prime Canterbury" mutton is produced.

Since the development of the frozen-meat trade, sheep-farming in the colony has undergone a radical change. At one time wool was the chief consideration, the surplus stock finding its way into the boiling-down vat, the tallow and pelts being the only products of value. Things have marvellously altered since 1882, the inaugural year of the frozen-meat trade. Farming has assumed a new phase, sheep-raising for mutton and wool being the most profitable branch. Small and large flocks of pure and crossbred sheep are now kept on all farms which are suitable for them, the object being the production of early lambs for freezing. The percentage of increase all over the colony is very high, especially in the paddocks, where 100 to 125 per cent. is not uncommon in favourable seasons, while on the hill and unimproved country it varies from 45 to 80 per cent.

Shearing commences in September, and is continued till January. The usual price per hundred is from 15s. to 17s. 6d. Shearing-

machines are gradually coming into use, but some sheep-farmers prefer hand shearing.

The average clips for the various breeds of sheep are approximately as follow: Merino, from 4 lb. to 7 lb.; quarter-breds, about $6\frac{1}{2}$ lb.; half-breds, $7\frac{1}{2}$ lb.; three-quarter-breds, $8\frac{1}{2}$ lb.; Leicester, $10\frac{1}{2}$ lb.; Lincoln, 11 lb. Of course, very much larger clips are obtained from special flocks, as much as 25 lb. to 30 lb. per sheep; but the above figures represent general averages.

The staple of New Zealand wool, especially the long-wool and cross-bred, is remarkable for its freedom from breaks and other imperfections incidental to countries subject to long droughts and scarcity of feed.

The most profitable sheep for New Zealand is that which combines the best fleece and the most suitable carcase for freezing purposes, together with early maturity. This is the class of sheep which some sheep-breeders have set themselves to produce. Whether such an animal, having fixity of type, can be evolved, remains to be proved; so much depends on the feed, situation, and soil. One or two breeders claim that the new breed, Corriedale, embraces these desired qualities and possesses a fixity of type.

The capability of New Zealand for producing mutton has not yet reached its limit. When the frozen-meat trade was first seriously considered, an assertion to the effect that the colony could soon find 1,000,000 sheep per annum for freezing without impairing the breeding-flocks was treated as highly chimerical by sheep-breeders of long experience. It is found, however, on reference to the statistical returns, that during the year 1897 nearly a million and three-quarters sheep and over a million lambs were exported from New Zealand. There are twenty-one freezing-works in the colony, with a full freezing-capacity of 3,665,000 sheep per annum. While congratulating the colony on the rapid development of the frozen-meat trade, it must be borne in mind that in Argentina strenuous efforts are being made to secure a share of the frozen-mutton trade carried on by New Zealand with Great Britain; Australia is also making strong efforts to share the trade with New Zealand. It must be admitted that with cheaper land, and a closer proximity to the markets of the world, Argentina will necessarily be a very formidable rival with Australasia. The sheep-farmers are becoming alive to the value of Down sheep for crossing purposes: they pay as much as six guineas per head for Shropshire ewes, and twenty-five to fifty guineas for Lincoln rams. The only way to keep command of the market is to ship nothing but first quality mutton and lamb.

Raising lambs for the frozen-meat trade has become one of the mainstays of colonial farmers, large and small, especially the latter. Like butter and cheese, the returns are ready cash. The magnitude of this industry may best be estimated by the fact that last year the colony sent away 1,038,316 lambs, valued at 9s. 9d. each, equal to £506,674. This, coupled with over a million and a half of sheep,

is sufficient evidence of the great and important changes which have come over the agricultural industries of this colony—a condition of things which has brought about a system of farming calculated to develop to the utmost the resources of the country. Approximately, 500,000 acres are annually devoted to root- and other fodder-crops, of which 393,451 acres were in 1897–98 under turnips, 77,131 acres in rape, for feeding sheep, and 9,353 of mangold, &c.

The determination of Australian flock-masters to cut into the frozen-meat trade has given rise to a demand for our long-wool sheep of superior quality. New Zealand breeders have consequently been enabled to extend their operations beyond their own borders; and although the trade may not prove a very extensive or lasting one, it will give encouragement to those who have spent time and money in building up their now famous stud-flocks.

“The New Zealand Flock-book,” published in 1895, is now thoroughly established, and, with careful management, must prove of great service to owners of pure pedigree flocks. The Royal Agricultural Society of Victoria have recently published a Flock-book for British breeds of sheep. This is a step in the right direction, as it is now generally admitted that all pedigree breeding-stock should be registered in some recognised herd-, stud-, or flock-book.

The hope of opening up a market for stud rams in Australia, of which flock-masters were so sanguine a couple of years ago, appears to have completely failed. The disastrous results of the Sydney sheep-sales of 1895 have completely dispelled any hopes which were entertained on that point. It is not quite easy to understand this, except, indeed, it may in some degree be attributed to continued droughts; and again, some blame may fairly be attached to owners themselves, who flooded the market with sheep of questionable quality, completely spoiling the sale of the better class of animals. There will always be a certain demand for sires bred in New Zealand, for the reason that this climate is probably better suited than the Australian for producing robust and hardy animals. It may be well here to correct an erroneous impression which has been fostered in some quarters, and appears to have gained credence in the minds of some sheepowners in Australia. It is to the effect that “merino ewes cannot lamb to Lincoln rams;” and as one fact is worth one hundred theories, the following will serve to set the matter at rest: Mr. H. Overton, Highfield, Kirwee, two years ago purchased a draft of strong merino ewes and put some of his stud Lincoln rams to them. The result was that from 210 ewes he tailed 234 prime lambs, which averaged him £1 per head; thus showing the fallacy of the idea above referred to.

HORSE-BREEDING.

The climate of New Zealand is admirably adapted for the breeding and rearing of horses of all kinds, especially draught-horses. Indeed, it would be difficult to find better Clydesdale horses than those bred on the limestone soils of Oamaru and elsewhere. Some

of the best blue blood of this breed has from time to time been imported from Scotland, with the result that the breed is now well established in the colony. The rise in the price of cereals has created a demand for this class of horse, and remunerative prices can readily be secured for really good stock.

The light-horse stock of the colony has risen into note through the production of animals which have rendered themselves famous on the Australian turf. The demand for horses suitable for remounts for the cavalry service in India is a continuous one, affording a ready market for the proper stamp of animal. Shipments have from time to time been made to that country. The importation, however, of a few really good sires for the production of carriage-horses, hunters, and hacks would be a national benefit.

CATTLE.

The colony possesses all the best strains of blood, and this is evidenced by the superior class of cattle to be met with throughout the settled districts, especially in the show yards. There are two Herd-books published by the Canterbury Agricultural and Pastoral Association—one for shorthorns, the second for breeds other than shorthorns; the third volume, of other breeds, contains 1,200 new entries. It is more than probable that the time is within measurable distance when breeders of high-class stock, principally shorthorns, will look to the colonies for an exchange of pure blood. The value of properly kept herd-books will then be apparent. This is already recognised in South America, as all imported stud animals are required to be registered in some herd- or stud-book. New Zealand is free from any of the diseases so disastrous to horned stock in other countries. It is said that Iceland is the only other spot on the earth which enjoys the same immunity. With a view to maintaining this enviable position, the Government have prohibited vessels carrying live-stock from infected colonies touching at any of the ports of New Zealand except under certain conditions. This action is deemed necessary, owing to the prevalence of pleuro-pneumonia in Australia.

DAIRY STOCK.

The breeding of first-class dairy stock offers a field for profitable investment. Milking-cattle now command a fair price, and will continue to do so. The rearing of well-bred heifer calves will repay all the time and trouble bestowed thereon. They must, however, be of exceptionally good quality and from fine milking strains. Separated milk, although relieved of its butter-fat, loses little of its feeding value; the addition of a little linseed meal will restore the fatty constituents, which, however, are not the most valuable for feeding purposes. Ground oats, wheat, or barley added to the linseed mucilage will render calves fit for the butcher in a comparatively short time. An acre or so of European flax should be grown upon every farm where stock-rearing is carried on. The fattening of calves for export has not yet been attempted in the colony, although

there is a very large and lucrative market for veal calves in London, ranging from £4 to £6 and £7 per head. Much has still to be done in the way of improving the dairy stock of the colony. The yield of milk from fairly good milking-cattle is approximately 500 gal. per annum, although 700 gal. per head are frequently obtained from selected herds. The average quantity of milk obtained will no doubt be increased as more attention is paid to breeding, and proper feeding. The general management and feeding of dairy stock is a question demanding immediate attention. Kind treatment is essential to success; clean pastures, clear running water, and grasses of the best quality are all factors, fully recognised wherever dairying is successfully carried out.

The average yield of butter from milk passed through the separator is 1 lb. for every $2\frac{1}{2}$ gal. of milk of $10\frac{1}{2}$ lb.; so that the average cow produces annually 200 lb. of butter, or 500 lb. of cheese, which, estimated at $4\frac{1}{2}$ d. per pound, will be worth about as much as the butter.

THE DAIRY INDUSTRY.

The following figures furnish an index to the importance of the dairy industry: The export of butter from the colony for the year ending the 31st March, 1898, amounted to £429,407, as against £297,469 for the preceding year. During the same period cheese to the value of £154,455 was exported. It will thus be seen that this business has now developed into one of the settled industries of the colony, the Government having spent considerable sums of money in the introduction of dairy experts, whose business is to instruct the dairy farmers and factory-owners in all the most approved methods of butter- and cheese-manufacture. The question of establishing peripatetic dairy schools was fully discussed at the recent Agricultural Conference held in Christchurch, when it was decided to apply to Government with a view to establishing one or more of these travelling schools, which should prove of immense advantage to the industry, especially in sparsely peopled districts. Graders are employed examining all butter and cheese for export, who brand each packet with its proper quality. Factory-owners had better recognise the fact that it is folly to pay freight on any but the best kind; and this remark applies to grain and meat as well. We have to compete against Canada, the United States, Denmark, Australia, and the Argentine. Mr. MacEwan, the late Government Dairy Expert, thinks that the days for very high prices have gone for ever. It is probable, he thinks, that butter will rarely range higher than £5 per hundredweight, and cheese £2 5s. per hundredweight. New Zealand dairymen must endeavour to raise dairy cattle which will yield the maximum of milk of the best quality; in fact, nothing but intense farming will pay in the future, applied to every branch. Factory-owners must acquire a knowledge of the chemistry of their business.

The Danish Government maintains a splendid laboratory and staff of professors, chiefly for the study of ferment in butter and

milk ; and almost all the milk sold is pasteurised. Everything connected with the industry is conducted on scientific principles. The object of sterilising or pasteurising milk is to destroy the germs of diseases such as tuberculosis, &c. At the present time there appears to be a craze almost amounting to a panic, as regards the danger of using the milk of cows affected with tuberculosis. How far the danger extends is difficult to determine. Be this as it may, the sterilising of milk is a wise precaution. The operation consists of heating milk up to a certain temperature, and cooling it rapidly, a process which has been found to destroy the bacillus of tuberculosis known to be present in the milk of affected cattle. The Government veterinary surgeons are employed examining all suspected cattle, and treating them with the tuberculine test. Mr. Gilruth, the Government veterinary surgeon, has tested a large number of cattle throughout the colony for this disease, and in some cases cattle have been destroyed. At the recommendation of the Agricultural Conference, already referred to, Government is to be asked to pay the owner of stock so destroyed one-half the value of the animal at the time of its death, which cannot be very much. The following extract from Mr. G. Pentland's (Stock Inspector) report to the Minister of Agriculture in Victoria is interesting and instructive. He says that "tuberculosis is not confined to cattle or man, but it attacks other animals as well—notably the pig, and poultry—and sanitary precautions should be extended as far as practicable in each case, as there is a risk of infection being conveyed from one to the other, from animals to man and from man to animals. Sunlight is very destructive to the bacilli of tuberculosis, and it therefore follows that all milking-sheds and -yards should be in the best possible position, as the success of minimising tuberculosis will greatly depend upon well-devised sanitary arrangements. All tested animals slaughtered and found to be badly affected should be burned, and not given to pigs and other animals. From a number of experiments made it has been found that injections of tuberculine have no bad effect on the quantity or quality of milk ; whilst, on the other hand, it is stated by some experts that it will be safer not to use the milk until twenty-four hours have elapsed after injecting the tuberculine. Cows with tuberculous udders should be forthwith slaughtered and their carcasses burned. The suppression of tuberculosis is imperative, and the co-operation of stockowners, in their own interests, will be the principal means to this end."

FIGS.

These useful adjuncts to the dairy should hold a very important position on almost all arable farms. The favourite breed in New Zealand is the improved Berkshire. The large and small breeds of White Yorkshire are also to be met with, but are not so generally approved of as the black pigs. Pigs require no better attention than a good grass paddock, with a liberal supply of roots, and a little unthreshed pea-haulm for a few weeks before killing, with

plenty of water, and shelter from the sun during the warmest summer months.

The breeding, rearing, and fattening of pigs is a source of wealth which is capable of considerable expansion. Several plants for the mild curing of bacon have been set up at the various freezing-factories, and by private persons and firms, many of whom are prepared to purchase an almost unlimited number of suitable animals, at prices which should prove remunerative to the grower. The establishment of properly appointed pig-farms is a somewhat costly undertaking, as all the fences must be pig-proof. Doubtless this consideration has had a deterrent effect upon some, while others find the breeding of lambs a sufficiently profitable undertaking, besides causing much less trouble. The industry is growing with the increased demand and the satisfactory prices offered for properly fed pigs. There is, however, room for an enormous expansion of this branch of rural industry.

THE FRUIT INDUSTRY.

From the North Cape to the Bluff Hill, in the extreme south of the Middle Island, the climate and soil are, for the most part, eminently adapted for the growth of a large variety of fruits. Generally speaking, pears, plums, quinces, apricots, figs, walnuts, cherries, gooseberries, currants, strawberries, and raspberries grow luxuriantly, producing abundant crops of fruit. In the Auckland District, oranges, lemons, and limes flourish: many groves are now bearing, and afford light and pleasant employment to a large number of persons. This employment will go on increasing as the trees become older. The olive flourishes in the North Island, bearing heavy crops, and the manufacture of oil will assume important dimensions at no distant date.

Vine-growing is also carried on with tolerable success in many districts; tons of fruit grown under glass are sold in the Auckland markets annually. Signor Bragato, an Italian wine expert, who visited this colony in 1895, gave it as his opinion that there are numerous localities in both Islands admirably suited for growing vines for the manufacture of wine and raisins.

Away in the far north the banana grows and ripens its fruit, but it is not thought that it will ever enter into successful competition with those imported at so cheap a rate from the Pacific Islands.

Extensive orchards of apples have existed in Auckland for many years, and are still capable of producing an abundance of fruit, if kept free from codlin-moth and other pests. Orchard-planting is progressing, and must one day be a very important industry. Central Otago will also become a large fruit-producing district, being free from violent and scorching north-west winds. All the fruits of the temperate zones flourish there; all that is required is a light railway to tap the district.

The manufacture of cider is already assuming considerable dimensions, opening up a ready market for surplus fruit. The

colonial-made article is rapidly coming into favour with the general public.

The drying of fruit has been fostered by the Government, who sent an expert through some of the apple-growing districts, giving practical lessons in the art of artificial fruit-drying. A great deal might also be done in bottling fruits, and the manufacture of fruit-wine, if only for home consumption. These are industries hardly yet touched, but as the orchards mature they may be expected to expand.

The manufacture of jam is carried on with much success, but there is plenty of room for further development in this industry.

EXPORTING APPLES.

This trade has not yet assumed any great dimensions. New Zealand orchardists might well take a lesson from their brethren in Tasmania, who have developed a large trade with the London market. Growers must, however, be reminded that it is folly to ship anything but the choicest varieties of dessert- and keeping-apples. The supply of locally grown fruit is little more than sufficient for local consumption.

Before the planting of fruit-trees was commenced on a large scale, with a view to the export trade, little attention was paid to the varieties selected. The result is that many bearing trees have proved unsuitable to the new requirements, and are now being cut down and regrafted or replaced with more suitable kinds. According to latest advices, the following varieties of apples are said to be in good demand in the London market, always commanding a quick sale at good prices: Ribstone Pippin, Cox's Orange Pippin, Waltham Abbey, Sturmer Pippin, Scarlet Pearmain, Adam's Pearmain, and New York Pippin. The soil best adapted for growing apples is a strong loam with a clay subsoil; but they will thrive in almost any kind of soil, provided it is in good heart and that water does not stagnate in the subsoil.

Owing to the comparative mildness of the New Zealand climate all kinds of fruit-trees are forced into bearing at an earlier period than in Great Britain.

TREE-PLANTING.

With a view to encourage the planting of trees, the Government some four years ago introduced the popular American institution of Arbor Day. It is, however, a matter for regret that New Zealand settlers have not as yet entered into the spirit of the institution, as it was hoped they would. Millions of trees have been planted in this way in the United States. Our native forests are fast disappearing before the woodman's axe; it is only a question of time and supplies will have to be drawn from artificial forests, or from foreign sources. Deciduous trees, such as ash, elm, and beech, should be largely planted. A small quantity of ash grown in Canterbury has already come into use for coachbuilding, and

has been pronounced by competent experts to be of excellent quality. Plantations of larch might advantageously be made on the southern slopes of the foot-hills skirting the Canterbury Plains and elsewhere. There can be no doubt that a demand will arise for large quantities of larch-poles for mining purposes, &c.

The following interesting paper on tree-planting is by Mr. T. W. Adams, Greendale, Canterbury, who is an enthusiast on the subject. After introducing his subject, he goes on to say that,—

There are but few persons who do not admit the value of plantations, and I think it would be superfluous to take much time in showing the advantages to be gained by planting shelter-belts; we only require for once to see the sheep during a snowstorm snugly protected by a good belt of pines to appreciate what they are worth to the poor animals. And now that the gorse hedges are dying in all directions those who have plantations find them extremely convenient, not only for repairing the dying fences, but also for stakes for dividing turnips, as well as fuel for the house; and if every farm on the less-valuable portions of Canterbury had been judiciously planted, or sown with forest-trees to the extent of one-tenth of the area, before the land had been cropped at all, I venture to say it would keep as many sheep on the nine-tenths, with the plantation to shelter the sheep from the cold, as it would on the whole without the plantation. Every stockowner knows what a large amount of food is required to keep animals in condition when they are exposed to the winter's cold; and then I think, however practical we may be, none of us are quite insensible to the beauty or otherwise of our surroundings. It should be the aim of every land-holder not only to make money out of the farm for his necessary wants, but he should try and make the home attractive by judicious planting of fruit- and forest-trees for the comfort and enjoyment of his family. Children brought up on a farm with plenty of trees to shelter them, and an orchard of good fruits for them to enjoy, will have much to make them content with a country life; in the cultivation of these things they are likely to find much to interest them, and when in time they leave their homes it will be with happy memories of the past. And so we strongly recommend the planting of trees, fruitful, useful, and ornamental. The Scotch laird is said to have advised his son to "be aye sticking in a tree," as it would be growing while he was sleeping.

That plantations are useful to supply fuel, valuable for shelter, and pleasant to look upon few will dispute, but we cannot so confidently assert that they improve the climate of a dry country by causing an increased rainfall. "Whether is the rain the mother of the forest" or "the forest the parent of the rain" is still a debatable subject, and a person may hold either theory and still have good authority for his view of the matter. Our own idea is that the rain causes the forest, and that trees to only a very small extent influence the amount of rainfall in any locality, but we think that trees are very valuable by their shade in preventing the too-rapid evaporation of the rain from the earth. We all know how much longer the grass remains damp in a plantation, caused partly by the shade and partly by the stillness of the air; a room will be much sooner dried if we open the windows and let the air pass through; and so if we cut down the trees the wind passing over the ground will more quickly dry it. Also, the decaying leaves and sticks, with the moss and other spongy substances found at the base of the trees, all hold the water from rushing unchecked off the soil, and thus causing streams to be more permanent in a wooded than in an unwooded district; therefore, although trees may not increase the amount of rain but to a small amount in a given locality, they undoubtedly are very beneficial in conserving it, and making more of it available for the use of man and beast.

But it is possible that trees do make a considerable difference in the amount of rainfall in a country. Certain it is that persons living in what were formerly bush districts generally hold that there is less rain than there used to be when the bush was standing.

Objection is sometimes made to the planting of trees, on the ground that

the trees harbour sparrows and other destructive birds, and it cannot be denied that near the homesteads the birds do use the trees for nesting; but in plantations removed from the home but very few will be found, and we venture to say that more sparrows' and linnets' nests may be found in a mile of gorse hedge than in 20 acres of trees.

There are some who would like to have planted more trees but have been discouraged from further planting through having bought unsuitable trees at the start. There are trees that look all that is beautiful when growing on the rich and well-cultivated soil of the nursery that would be utterly useless for either shelter or ornament if planted on the poorer land usually given to trees.

Some think that planting is too expensive, and say that planting is not profitable; others have heard the old saw which says, "The planter of trees benefits not himself but his posterity," which is not true, at all events in New Zealand, as we who commenced to plant early have now trees fit for almost any purpose; and if it were true it is certainly well that we leave the world better than we found it, and no one can more surely do this in a material sense than by leaving portions of these plains of ours covered with valuable timbers.

We will now try and show how we think this may be done. Supposing the land in tussock, no one need be afraid of the expense, as a crop of useful trees may be raised from seed as easily as a crop of turnips, and the seed need not cost more, as seeds of *Cupressus macrocarpa*, *C. tomlisa*, several species of hardy eucalypts, and acacias, and many other species of trees, may be had for the gathering, and will thrive excellently if sown by an ordinary drill, and all the better if a little fertiliser is sown with them, as with the turnips. The seed of all the different species may be mixed together, or one part of the drill may be charged with wattles, another with gums, another with cypresses. It would not be easy to raise a pine-plantation in this way, as the birds have a great taste for them and would pick all the young pines off as they came up; but a variety of shrub-seed, such as matipo, laburnum, berberry, holly, and junipers, might be added with advantage, as I have found by experience, and in one of my plantations the matipo (*Pittosporum tenuifolia*) is now very freely sowing itself; but, unfortunately, the wood of the matipo, though hard, is of very little use for stakes, as it decays very quickly. The belts sown should be at least 2 chains wide, as not only would the trees grow better, and the timber be of better quality, but the cost of fencing would be much less per acre. And here let me say it is of the utmost importance that the land set apart for trees should be well fenced; not a few of the failures in planting have been caused by a flock of sheep getting into the plantation during the early years of its growth, and unless one is prepared to put up a good fence he had better not attempt the raising of trees.

On ground that has been in cultivation, and where sorrel and other weeds are in possession, it is more difficult to get a plantation of trees started, and if cocksfoot grass is plentiful it will be necessary to destroy it before any success can be expected. On this class of land I cannot recommend sowing the seeds until the weeds are killed by a summer's fallow; or, a better way would be to raise the plants in a nursery ground, or get small plants from a nurseryman, and plant them in a specially prepared bed, there to remain until they are large enough to be planted in their permanent situations. The advantages of this plan are great, and, even when plants are received from the nursery of sufficient size, it will be found more economical to put them in a bed and keep them weeded for a season; they can then be planted out under the most favourable circumstances as to weather and season of the year, and will not fail to grow when so treated.

It is important in planting or sowing trees, if a number of species are being sown, to put such fast growers as *Pinus insignis* on the northern side of the plantation, thus allowing the slower-growing trees to get the full benefit of the rain, which usually comes from the south-west. The fast growers placed in this manner also protect the trees of slower growth from the north-west winds. In no case should *Pinus insignis* be mixed with other trees, or it very soon overtops and destroys them, but may be used with advantage to shelter others in the way I have indicated. In planting, if shelter be the first consideration, *Pinus*

insignis, *P. tuberculata*, *P. patula*, *P. muricata*, and *P. Bolanderi* will be found the fastest growers, and in the order named, and the wood of all is useful for firewood. But I think we should look a little further ahead, and plant trees that will, when matured, be valuable for railway-sleepers, and other such purposes. Over two thousand sleepers are required for every mile of railway, and they require renewing every few years. It would be wise in the interests of our country, and of our families, if we plant the most valuable trees with which we are acquainted, and I know of no tree so likely to fulfil these requirements as the larch-pine (*Pinus laricio*), known also as the Corsican pine, and found growing in Greece and other parts of the south of Europe. One English writer says of it: "All things considered, it is one of the most valuable and generally useful species of the genus *Pinus* which has yet been planted in the British Isles, being thoroughly hardy, sound in constitution, of tolerably large dimensions, and of very rapid and regular growth, and will not only grow, but will produce both quantity and quality of timber equal to any, and superior to many, of its congeners when grown under the same conditions." And this is exactly our experience of it here, and we can with confidence recommend it to planters. It is not often that trees recommended in English works are successful here, but this is an exception.

Other trees that give promise of success are *Pinus ponderoso*, *P. austriaca*, *P. coulteri*, *P. sabiniana*, *P. pungens*, *P. rigidi*, *P. pineaster*, and *P. benthamiana*, *Cypresses knighti*, *C. tomentosa*, and *C. benthamiana*, *Cedrus atlantica*, *Libocedrus decurrens*, *Picea pinsapo*, *P. nordmaniana*, *P. nobilis*, and *Araucaria imbricata*. All these, I think, will grow fairly well on the ordinary thin soils of the plains. Along the water-races, or even on the south side of the plantations, other trees will grow, as the various spruces, oaks, elms, walnut, chestnut, ash, and larch, but only well within reach of water, except on the best land, and persons owning the better land will not be disposed to put much of it in trees. Nor is it desirable that it should be planted, except in limited areas around the buildings, and then only with choice trees, instead of the willow, poplar, and *Pinus insignis* everywhere to be seen. The trees should have plenty of room to develop themselves, and the spaces betwixt them should be filled with shrubs, such as the laurel, holly, lauristina, guelder-rose, *Azara microphylla*, juniper, *Choysa ternata*, matipo, arbutus, magnolia, rhododendron, and *Euonymus fimbriata*. These are twelve hardy shrubs—distinct, and beautiful. The twelve trees that I shall recommend are *Araucaria imbricata* or monkey puzzle, *Abies douglasii*, *Cedrus deodara*, horse chestnut, *Cupressus lawsoniana*, *C. sempervirens*, *C. torulosa*, *Picea nobilis*, *P. nordmaniana*, and *P. pinsapo*, *Retinospora leptoclada*, and *Thuja gigantea*. These twenty-four plants can, with the exception, perhaps, of *Picea nobilis*, all be obtained of any of our leading nurserymen, and are the cream of trees and shrubs suitable for a farmer's homestead.

Before closing this paper I would like to correct a common mistake about our native trees, to the effect that they are difficult to transplant. Such is not the case, and several of them may be successfully grown, as the kowai and matipos, from seed; the black-birch and white-pine, from plants collected in the bush, and the totara may be raised quite readily from cuttings. Others, as the akeake, broadleaf, and lancewood, may all be grown, but they cannot endure long droughts in the central parts of the plains. They would do well near the sea as at New Brighton; and the sandhills all along our New Zealand coasts appear to me to be crying out for trees. With the experience gained in France, no time should be lost before a determined effort is made to stop the drifting inland of the sand on our coasts. It is only a little over a hundred years, or in 1789, when the first national attempt was made on the shores of the Bay of Biscay to stop the further inroads of the sand by means of plantations of broom, *Pinus pineaster*, and the cork oak. Now these very protective works have become the source of great wealth, thousands of persons finding employment in charcoal-burning, cork-cutting, and in collecting turpentine, resin, and pitch. The broom, *Pinus pineaster*, and the cork oak all grow well here, and nothing is needed but the same public spirit and foresight to begin the work which induced Minister Neckar in a time of great financial straits to commence the work in France.

PROSPECTS OF SMALL FARMERS.

Those who have watched the course of events in other countries, so far as they affect the agricultural interests of New Zealand, have come to the conclusion that New Zealand will have to pay greater attention to the quality of her agricultural exports than has been given to them in the past. Our farmers cannot hope to compete with such countries as Australia and South America, where land is so much cheaper, and where mutton and beef of good quality can be produced; for cheap meat these must command the markets of the world. Happily for New Zealand, our climate and pastures are such that we can not only produce mutton equal to the finest English or Scotch, but we can produce more per acre than can be done in Australia. Our dairy-produce is now second to none, owing to the Government instructors and graders, and the factories where the article can be made uniformly good.

Owing to her humid climate and fertile soil New Zealand is peculiarly well adapted for small holdings. Men of slender means can easily make homes for themselves and their families, always provided they know something of the work they undertake, and are, with their families, willing to work hard and live frugally for a few years. It is quite possible for a man with a few cows and pigs, together with poultry and bees, to make a good living, as markets for these products are now being opened up in England, and there is a good local market if the goods are properly prepared. There is also a continuous demand for the supply of coastal and ocean-going steamers. The facilities now given for obtaining land and money at reasonable rates offer great inducements to persons to settle upon the land. This is amply illustrated at Cheviot, where a fine estate has been cut up into moderate-sized farms, and let to farmers on perpetual lease at a rental representing 4 per cent. on the purchase-money. Prosperous homes are springing up all over the settlement, and a couple of good seasons (which, however, have not as yet been vouchsafed to the settlers) would go far to place them in a thriving condition. Its success will be assured when the proposed line is completed, connecting the settlement by rail with the local markets and the port of shipment. There are thousands of acres in the North Island adapted for farming, and much land there is being taken up. The advance in prices for farm-produce which has taken place during the past year will, it may fairly be assumed, stimulate the settlement of the lands throughout the colony.

CONCLUSION.

A few of the salient points have now been enumerated, which go to prove conclusively that as a country for settlement New Zealand is not surpassed by any British possession, being one where the industrious man with moderate means can live with much comfort. The land, it is true, is dearer in some districts than that which may be found in South America, South Africa, or Canada, but this difference in price is far outweighed by other considerations, such as

superiority of climate, and security to life and property. Pit these advantages against the insecurity of life and property in South America and South Africa, or the rigour of Canadian winters, and the balance will be immensely in favour of New Zealand. Another great advantage enjoyed by the agriculturist of New Zealand is that he is nowhere far from the seaboard, giving him the benefit of cheap water-carriage for his produce to the markets of the world.

The foregoing notes would hardly be complete without some reference to the prevalence of small birds. Amongst other birds, the English sparrow was introduced to New Zealand some five and twenty years ago. Many of the early settlers remember his first appearance, and the pleasurable feeling elicited by the sound of his once familiar chirp, awakening reminiscences of the Old Land. New Zealand is singularly destitute of the feathered enemies of small birds, and, owing to this and the genial climate, the sparrow and other birds have long since become so numerous that drastic methods have to be adopted to preserve the balance of power. Large sums of money are paid annually by the Road Boards for the destruction of small birds. The want, however, of concerted action on the part of farmers at the time of poisoning is responsible for the undue increase of the pest. While treating small birds as pests, it must not, however, be forgotten that before their advent farmers suffered very heavy losses from the periodical attacks of caterpillars, which frequently devastated their barley and oat-crops, and that the birds are the farmers' friends in this matter. It must also be remembered that the birds live for about nine months in the year on insects and seeds of weeds; so that if accounts could be squared they would not be such debtors after all. All that can now be done is to keep them in check.

SUGGESTIONS FOR THE MANAGEMENT OF THE NEW ZEALAND FORESTS.

[Extracted from a report by GEORGE S. PERRIN, F.L.S., F.R.G.S., Conservator of State Forests, Victoria.]

THE EXPERIENCE OF OTHER COUNTRIES.

The value of timber from New Zealand forests which has been used in the building of prosperous provincial cities and in other directions during the past fifty years is not easily estimated. It is quite safe to say, however, that the kauri-timber alone thus used represents an almost fabulous sum of money. Yet, in spite of expert evidence as to the utilisation of these magnificent resources, in the face of rapid denudation of forest areas near the centres of trade and industry, the probable total extinction of the noble kauri, and the absolute certainty that thousands of acres of forest are practically perishing—since, unlike those of Victoria, New Zealand forests do not readily renew themselves by natural growth—the extraordinary fact remains that in the past forest-conservation has been allowed to retrograde, although disaster must inevitably result from such neglect in the loss of timber-supplies.

Nature invariably averages reckless disregard of her laws, and if the firestick is thoughtlessly used to strip hillsides of their natural protectors, floods and landslips very soon destroy the arable country at their bases. Because, up to date, no very serious disasters of this kind have overtaken New Zealand farmers it by no means follows such will not occur. On the contrary, it may be regarded as certain that, unless the teachings of experience in European

forestry lead to the adoption of such scientific means as are there employed, the occurrence of disaster is merely a question of time. Although not due to precisely the same causes, the disastrous floods at Napier, whereby property valued at £100,000 was destroyed, is an illustration of what is likely to occur through deforesting. All experience shows, indeed, that a disregard of the value of trees in the economy of daily life entails serious consequences upon the country interested; that the wholesale destruction of timber-trees is a national mistake; and that reparation of damage thus caused involves the outlay of enormous sums of money.

France, for instance, stands as an object-lesson and warning to those who oppose necessary official control of the timber-cutter's work. The French people cannot be regarded as a nation of fools; yet it would seem to the uninitiated clear evidence of folly that they permitted the destruction of timber on the slopes of the Alps and Cevennes to such an extent that already they have had to expend £850,000 in replanting a hundred and fifty miles of the denuded areas, and are still engaged in the gigantic task of reforesting a further six hundred miles. These mountains were at one time covered with timber. As the grazing of sheep and cattle extended rapidly, timber was ruthlessly destroyed in favour of the grass. Retribution followed. In due course the flood-waters, pouring down the sides of these mountains, carried and distributed over the valuable farm-lands—some of the richest in France—millions of tons of silt, sand, and stones, rendering utterly valueless tens of thousands of acres of splendid country, till the scheme of reforestation above referred to became an imperative necessity.

In view of the experiences elsewhere, the question of how best to deal with conservation of forests must be regarded as of momentous importance to the people of New Zealand, since upon the efficiency or otherwise of the work undertaken depends whether they shall gain a substantial revenue from their timber or suffer tremendous national loss.

THE CUTTING-OUT OF TIMBERS.

The sawmiller should be encouraged to place his mill in such a position as will insure the readiest means of cutting out timber in "rotation blocks," marked out and shown on working-plans, to provide for the removal of one block per year, a sufficient number of blocks being so laid out as would enable the miller to carry on work continuously for a stated number of years. The exact number, of course, depends upon the length of time required to bring the young trees, either planted by hand or growing up naturally, to maturity. Such sawmill-sites should, in the first instance, be let by tender, and no more than one mill should be allowed to operate on the same series of "rotation blocks." The effect of this system would be to check that undue competition by close proximity of several mills which results in too close a cutting of the forests. It would also insure greater care on the part of the sawmiller, by giving guarantee of permanent occupation for the stipulated period. The annual output could be gauged by the work of previous years at each mill, and thus the size of blocks required for an annual supply could be determined. This briefly describes the "rotation" system of cutting, which should be carried out on a working-plan approved at headquarters, and from which no deviation should be allowed.

NATURE OF MEASURES NECESSARY.

1 A new Act, or amendment of Acts now in force, should be passed to create a Forest Department, and fix the status, duties, and emoluments of its officers. Power should be given—(1) To make permanent and inalienable existing reserves, no curtailment of area being permitted except such as is sanctioned by both Houses of Parliament; (2) to permanently reserve such other areas as from time to time may be found necessary. Political interference with the actual working of the forests, apart from State policy, should be specially guarded against. The Conservator should manage the forests from a scientific and national standpoint, giving due consideration to all interests involved. All technical work should be left to his expert and trained judgment, and in no case

remitted to the political chief, who should, as far as possible, give the Conservator a free hand with regard to his professional duties.

2. No new settlement within the area of State forests should be permitted, and where such have been established the settlers should be bought out.

3. Areas should be so reserved that each forester could supervise one large or a group of smaller forests, except in sparsely timbered districts. State forests should not be of small area; such are relatively more expensive to supervise and work than those of large extent.

4. It is absolutely essential that the chief officer, or Conservator, should be a trained expert, otherwise the principles of scientific forestry cannot be carried out, and the work of the department must end in failure.

5. The Conservator should have absolute authority in all matters of technical or professional detail connected with plantation, conservation, supervision &c.; also over the employés of his department. To this end, he should have special powers, and be entirely free from political pressure or interference of any kind.

6. Apparently, the only means of making this officer independent of political influence would be the creation of a powerful buffer between him and the Minister who presides over his department. Such a buffer could only be provided by constituting a Forest Board of three Commissioners, with the Conservator as *ex officio* Chairman. The Trust should be non-political, and meet once a month, members receiving a stated fee for each attendance. The duties of these Commissioners would be,—(a.) To safeguard the forests as national property against all attempts at encroachment by private individuals or local bodies. (b.) To act as a board of advice to the Minister on questions of forest policy, such as royalties, increase or reduction of forest areas, and generally to strengthen the hands of the Conservator. (c.) To submit an annual report upon the work of the department during the past year.

CULTURE OF FOREST-TREES MUST PROCEED WITHOUT BREAK.

The life and growth of trees vary to such an extent that years must of necessity elapse before a system modelled on the French, German, Swiss, or Indian forest-codes can be fully worked out. Any interference with the Conservator in carrying out the details of his scheme must therefore in many instances render futile the work of years, and in some cases risk the overthrow of the entire system. It must be remembered that the culture of forest-trees entails a "rotation" plan, extending from forty to eighty years. However well conceived and carried out such a plan may be, any "break" must overthrow it. It is quite simple for a Minister, influenced by people who are ignorant of forestry principles and requirements, to cause such a "break," but it is a work of greater difficulty, which involves many years of time lost, to repair the damage so done.

For all these reasons the foundation and most essential condition to the establishment of a successful Forest Department is an Act of Parliament giving the Conservator of Forests secure tenure of office and ample powers to insure the uninterrupted and continuous progress of the work intrusted to him. This Act should contain clauses to provide that all timber areas now in the hands of the Government (or that may be hereafter acquired from the Maoris) should be proclaimed permanent State forests, and should be safeguarded by the most stringent conditions. It should further provide for the adoption, in working the forests, of the broad principles of systematic and fixed conservancy, details being left entirely in the hands of the skilled officers; and insure the officers from all danger of intimidation in the exercise of their duties.

DEMAND FOR WOOD-PAVING, ETC.

Enormous quantities of timber are required to meet the great and increasing demand for wood-paving in all the great cities of the world—a trade as yet only in its infancy. When the authorities really grasp the fact that Australian hardwoods are absolutely the best timbers in the world for such purposes the possibilities of forestry will assume startling significance, and neglect to provide for profit from this demand must be regarded as almost criminal.

Blue-gum is largely grown in New Zealand, and as soon as jarrah and red-gum becomes scarce (the latter already is so in most of the colonies) this timber must be one of the foremost in public favour, being particularly adapted for wood-paving, and especially so for such use in wet places. Large plantations of these and other *Eucalypti* (which mature so rapidly that in twenty-four years they are ready for the sawmiller) could be planted with great profit, both by the Government and by private persons.

Already the Americans have become dissatisfied with their own deals for street-paving, and the City of Philadelphia has commissioned its Museum authorities to inquire into the suitability in price, quality, and quantity available of Australian hardwoods for this purpose. This fact alone indicates the probability of an extensive trade in such timbers in the near future.

During the past forty years millions of money have been sent to America in payment for the soft woods of that country, and now there is every probability, if our opportunities are seized upon, of some of these millions coming back to Australia.

The cultivation of such *Eucalypti* as may be found by experiments now being conducted in Melbourne and elsewhere most suitable for the purpose, opens up a vast field for the operations of up-to-date forestry, and there is no reason why New Zealand should not compete with the other colonies in supplying the demand for these timbers, while her own indigenous timbers will become too valuable for use in this way.

CONCLUDING REMARKS.

I feel bound once more to warn the Government of New Zealand that if forestry operations—of such vital and momentous importance to them—are not placed at the outset upon a solid and permanent basis no practical good can result. No half-hearted measures, no subsequent “tinkering” with the subject, can insure the maintenance of the forests and profitable use of their timber. It is absurd to appoint experts, waste money upon a “bastard” system, and yet allow what little good work might be done even under that to be neutralised by alterations of policy on a change of Ministry or in the exigencies of some political interest.

Systematic and scientific treatment has been proved and recognised as indispensable in the experience of every one of the older countries. Such treatment cannot be applied if the system is disarranged merely to oblige Jack, Tom, or Dick, who supposes that an elector's or miner's right gives him authority to burn, cut, or otherwise destroy timber at his own sweet will, and without any reference to the rights of the people as a whole, who really own the forests.

If in these suggestions I have been able to throw any light on a somewhat difficult problem, and through my candid criticism on the position which forestry unfortunately occupies on this side of the globe New Zealand reverts to real forestry, and takes it up this time in a large-hearted, vigorous fashion, determined that there should be no faltering or turning back, then I am certain she will find her forests a blessing and means of employment to thousands, and the Government will never regret any money spent in insuring systematic scientific conservation.

THE DAIRYING INDUSTRY.

By C. W. SORENSSEN.

It is doubtful whether the future importance to New Zealand of her dairy industry is as yet fully realised, even by those already engaged therein. Certainly, of the principal articles of produce exported from the colony, none shows the steady and withal large development that has characterized the dairy-produce trade. The four most important exports are those of wool, frozen meat, gold, and dairy-produce, *i.e.* butter and cheese. If we examine the

exports of those articles during the last ten years, we find the value of the wool exports have increased 34 per cent. ; frozen meat, 244 per cent. ; gold, 31 per cent. ; while dairy-produce has increased 405 per cent. Comparing the exports for the years 1896 and 1897, the difference is equally marked. Wool increased by about 1 per cent., frozen meat by about 25 per cent., Gold decreased 6 per cent., whereas dairy produce increased by 34 per cent. The value of the butter and cheese exported during the year ending the 31st March, 1898, totals £583,862, which represents an increase of £150,657. Of this increase, less than £700 is contributed by the Middle Island, so that to the North Island must be given the credit for practically the whole of the development. The performance is a satisfactory one, and would have been even more so had it not been for the disastrous bush-fires which destroyed so much feed in the principal dairying centres. Given a fair, average season, it may be safely estimated that next year our exports will reach, if not exceed, three-quarters of a million sterling.

While congratulating ourselves on the increase in the quantity of our exports, we must not forget the all-important point of quality. Both with regard to butter and cheese, there is room for greater uniformity, a levelling-up of the inferior brands to the standard of the best. Our best brands admittedly leave little to be desired, and there is no reason why, with due care on the part of the producer, manufacturer, and shipper, we should have to export anything not equal to the best. On the whole, we are enabled to report an improvement in quality in many cases, largely owing to the general insertion of efficient refrigerating-machinery in the factories. It now remains for the producer to do his part by delivering the milk at the factory in the best possible condition. This, coupled with the general introduction of the process of pasteurisation into the factories, will assuredly diminish the not inconsiderable gap between the market-price of our own produce and that of the Danish article.

OUR NATURAL ADVANTAGES.

When we glance at the countries which are our rivals in this industry, both in the Northern and Southern Hemispheres, we can not fail to be struck by the one great advantage we enjoy over them all in our mild climate and plentiful rainfall. Ireland is probably, from a dairyman's point of view, the only similarly favoured country in the world. But, as with all her northern competitors, our period of plenty is her period of scarcity, and the period when prices are highest in our common market. Certainly, nowhere south of the line is such a fertile soil to be found, united with such a temperate climate, as in our "Fortunate Isles." At one time Victoria and the Argentine threatened to be our most formidable rivals on this side of the globe; but what do we find? During the last three years Victoria's exports of dairy-produce have steadily decreased from 11,000 tons in 1894-95 to 7,000 tons in 1897-98, and in the winter months that colony has proved our best customer both for butter and

cheese. The Argentine, whose exports of butter to Great Britain jumped from nothing in 1894 to nearly 800 tons in 1896, but last year fell away to 470 tons, appears as liable to reverses as Victoria. The greatest butter-producing countries in the world at the present time—Denmark and her neighbours, Sweden and Finland—have to contend against the severity of a six-, seven-, or even sometimes eight-months' winter, during which costly stall-feeding has to be practised, with all the attendant expense of providing stables and labour. In two respects only can the Danes claim any advantages over New Zealand—in proximity to the market, and in cheapness of labour. Refrigeration assists us to a great extent to counterbalance the former, and labour-saving machinery compensates for the latter. For instance, in an average butter-factory in New Zealand two men will handle the milk of six or seven hundred cows, whereas at a Danish factory of similar size, four, or possibly five, hands would be employed.

COST OF PRODUCTION.

Notwithstanding our natural advantages, the future of the industry depends upon our ability to land in the British market a finer article than any one else, and at a less cost. We cannot control the market-price of butter or cheese, but we can, to a large extent, reduce the cost of production to such a point that the market-price will leave us a reasonable margin of profit. In the days of 112s. per hundredweight for butter and 60s. for cheese, the cost of producing a pound of either was sufficiently low to leave a very good margin. But now that the average price of butter is 10s. or 12s., and of cheese 8s. or 10s. per hundredweight lower, either the cost of production or the margin of profit must be reduced. The fact that the exports of dairy-produce continue to increase in spite of the fall in prices shows that the margin of profit is still wide enough to encourage production. The industry will probably keep on increasing, for the reason that, as the main factor in the cost of production is the capacity of the cow herself, and as the average capacity of our cows is at present a low one, which could without great difficulty be nearly doubled, it follows that the present cost of production can be proportionately reduced. We may, therefore, be justified in looking ahead with confidence in the belief that, whichever of our rivals may eventually be forced out of the field of competition, New Zealand will be amongst the last to leave it.

THE DAIRYING DISTRICTS.

The principal districts in which dairying is carried on to any extent are Taranaki in the North and Otago in the Middle Island. The former is undoubtedly best suited by nature for successful dairying by reason of its mild climate, its copious rainfall, its splendid grazing land, and its countless streams of clear, quick-flowing water. A considerable amount of dairying is also carried on in the Waikato, the Wairarapa, and the Forty-mile Bush districts of

the North, and in Canterbury, in the Middle Island. The factories are distributed throughout the colony as follows: Taranaki, 107; Otago, 67; Auckland, 49; Wellington, 48; Canterbury, 26; Hawke's Bay, 9; Nelson, 6; Marlborough, 3; Westland, 3: total, 318. The above figures include skimming-stations, or creameries as they are sometimes called. This represents an increase in the number of factories in operation of 10 per cent. over last year's number, and of 330 per cent. since 1891.

WINTER DAIRYING.

Until recently it has not been customary with North Island dairymen, especially in Taranaki, to provide any winter-feed for their stock, the grass alone being considered sufficient. Nor was it at all usual to milk any cows during the winter months, except such as were necessary for domestic supply. Six or seven months constituted the milking-season, and if the cows were not all dry about the end of March, they were summarily dried off and turned into the bush for the winter. Competition, however, has of late enforced better economy, and most dairy-farmers now grow hay, ensilage, or roots, to supplement the pasture during the three or four months when the growth of grass is checked. Better milking-sheds and cow-yards have been erected, and cows are now milked for a longer period than formerly. Many of the factories now receive milk all the year round, which until recently they could not do, partly because of the bad state of the roads in the wet season, and partly because of the insufficiency of the available milk-supply.

THE FACTORY SYSTEM.

The factories are worked in two ways: either they are owned and managed by the milk-suppliers on co-operative principles, or by private individuals or syndicates. In the former case the suppliers receive an advance each month against all milk supplied, the funds being provided by drawing on the company's London agents against shipments, and after payment of all working-expenses, including interest on paid-up capital and overdrafts, and provision for reserve fund, any balance is distributed among the milk-suppliers *pro rata* to the value of the milk supplied by them. Where the factories are owned by private individuals, a fixed price, as mutually agreed on, is paid for the milk, the proprietors, of course, taking all risks of manufacturing and marketing the produce. Given capable management, co-operative dairy-factories have proved a great success, and the system is growing in favour. The proprietors of private factories, however, speaking generally, and considering the risk involved, have paid and do pay their suppliers full market value for the milk purchased. Indeed, as things are now situated, they must do so, otherwise the suppliers will form co-operative companies to run the factories for themselves. The average price paid by the principal proprietary concerns last season was from

2½d. to 3d. per gallon, with skim-milk returned free; while the co-operative factories' returns were slightly higher, ranging from 3d. to 3½d. per gallon, or 8½d. per pound of butter-fat.

THE DAIRY CATTLE.

The dairy cattle of the colony are for the most part mixed short-horns and Ayrshires, but since the adoption of the system of paying for milk according to its richness in butter-fat, the Jersey strain has been largely introduced in order to improve the quality of the milk. Particularly in the North Island have the Jerseys gained favour with dairymen, probably on account of the mildness of the climate being conducive to the development of their milking qualities. It is found that calf-raising is not now so profitable as formerly, and the majority of our farmers now only raise such heifer-calves as may be necessary to keep up their dairy herds, devoting the rest of their skim-milk or whey to pig-feeding.

UTILISATION OF BY-PRODUCTS.

The by-products of the factories—namely, the skim-milk and butter-milk of the butter-factories, and the whey of the cheese-factories—are either returned to each supplier *pro rata*, or the whole season's output is sold to the highest bidder, or else is utilised for pig-feeding on or near the premises, the profits being divided amongst the suppliers. At the butter-factories it is customary for each supplier to take back his share of skim-milk, while the butter-milk is usually sold to the highest bidder at a price ranging from ½d. to ¾d. per gallon. The skim-milk is considered of almost equal value to the butter-milk for feeding purposes, the whey being worth about half as much as skim-milk. On this account proprietary factories generally pay ¾d. per gallon more for milk for cheese-making than for butter-making, by way of compensation for the diminished value of the whey as compared with the skim-milk. Bacon-curing factories are established in most parts of the colony, which purchase the pigs alive from the grower, paying 3d. per pound, less 25 per cent. for offal. This is a good payable price, and if it can be relied on to continue will soon cause a general extension of the industry. No doubt the co-operative principle will before long be applied to the bacon-curing factories, as has been so successfully done in Denmark. The market for bacon of prime quality is far from being overdone, while the export of frozen pork to the Old Country has not yet been more than started. The best utilisation of the by-products is one of the most important questions in all manufactures nowadays, and in many cases the whole of the profits are derived from this source. The Danish butter-trade may be said to practically depend on the profitable employment of the by-products; and, although New Zealand dairying has not yet reached that stage, we cannot afford to neglect so important an adjunct to success. The day may come when, without it, we shall fare badly in the struggle for possession of the British dairy-produce market.

GOVERNMENT AID.

It is now sixteen years since the Government offered a bonus of £500 for the first fifty tons of cheese exported from the colony, a bonus that was won by the Edendale Factory in Otago. From that time to the present the work of the Department of Agriculture in connection with the dairy industry has grown steadily, the expenditure on experts, dairy-schools, subsidies, cool-storage, &c., amounting last year to over £9,000. The staff of experts now at the disposal of the public includes travelling instructors, whose duties are to visit the factories, and, by practical demonstration and advice, show the managers how to remedy any defects in the quality of their output; to deliver lectures on dairy matters to settlers; to furnish plans and estimates for new factories; and generally to assist in the development of the industry wherever possible. The State-grading system, inaugurated in 1894, has proved of immense benefit to the industry, and has been imitated more or less closely in other countries, not only with regard to dairy-produce, but to other commodities as well. Under this system all butter or cheese is examined and graded at the ports of shipment by competent experts, who promptly issue a report on each parcel to the shipper. Any faults of manufacture or packing are thus at once pointed out, and can be instantly remedied; whereas without grading nothing would be known of them until the London agent's report was received, with the account sales, some three or four months later. Before the grading was started it not infrequently happened that some serious defect in quality, which might easily have been remedied, continued from month to month, and the bulk of the season's output was spoilt, because the directors of the factory concerned had no means of ascertaining whether the work of their manager was good, bad, or indifferent. Under the present system of inspection, such a possibility cannot occur, and if the quality of a brand continues faulty, it is not for want of expert opinion as to the weak point, nor for advice as to the remedy. Though opposed in many quarters when first started as an interference with the liberty of the subject, Government grading is now recognised to be of the greatest benefit to the producer, and we may doubtless witness an extension of the principle in other directions at no far distant date. The best testimony as to the accuracy of the graders' reports is furnished by the fact that the majority of buyers, whether English or colonial, buy or make advances against both butter or cheese according to the grade, and the grader's report is now a recognised trade document in business circles, without which but little dairy-produce changes hands. The dairying service of the Department of Agriculture also issues bulletins or leaflets on matters of interest to dairymen as occasion arises; and some idea of the work involved may be gathered from the statement that there are between seven and eight thousand milk-suppliers on the department's mailing-list.

THE MINERAL RESOURCES OF NEW ZEALAND.

[By P. GALVIN, Secretary Mining Bureau.]

GOLD.

NEW ZEALAND takes second rank amongst the Australasian Group as a gold-producer, the total quantity exported from the 1st April, 1857, to the 31st March, 1898, being 13,635,020 oz., valued at £53,644,444. This does not take into account the well-filled chamois-leather bags which many of the early diggers took back with them to Australia or the Old Country from the rich alluvial goldfields of Otago and the West Coast, nor the gold that has been used by jewellers and dentists in the colony for a period of forty-one years.

Gold is principally obtained in New Zealand from veins in, and fine gold scattered through, quartz-reefs; from the sand and gravel in the valleys and river-beds of mountain ranges; from the sea-beaches of the West Coast of the Middle Island, and in small pockets under the boulders and stones that lie on the sandy beaches between Jackson's Bay and Martin's Bay; while in some of the river-beds, principally in Otago, a considerable quantity of gold is obtained by dredging.

Quartz-mining.—Quartz-mining is carried on at Coromandel, the Thames Valley, Te Aroha, Waiorongomai, and Te Puke; and in the southern part of the North Island in the vicinity of Wellington, quartz-mines have, to a limited extent, been worked, the wide distribution of the gold being thus established. In the Middle Island quartz-mining is carried on at Taitapu and the Aorere Valley, Collingwood district; at Lyell, Reefton, and the Victoria Mountains, in the Buller Valley; at Cedar Creek and near Ross, in the Totara and Miconui Valleys; in the Otago District—in the Taieri Valley, in the basin of the Clutha, at Cromwell and Macetown; further west, in the Shotover Valley and that of the Rees River, above Lake Wakatipu; and in the south-west, at Preservation Inlet.

Alluvial Mining.—In the Middle Island, alluvial mining is carried on at Marlborough; in Nelson and the West Coast, at the Aorere Valley, Motueka Valley, and many places within the Buller watershed, and on the coast-line north and south of Westport. Large goldfields exist in the Grey Valley, in the New River district; in the Teremakau Valley, at the Greenstone and Kumara; at the Waimea; at Humphrey's Gully, in the Arahura Valley; at Kanieri, Woodstock, Rimu, Back Creek, and Seddon Terrace, in the Hokitika Valley; and further south, at Ross, very rich diggings have been worked, while a large area only awaits the introduction of capital for the development of the deep leads that are known to exist in that district. Alluvial mining is carried on over a great portion of Otago—at Maerewhenua and some other localities in the Waitaki

Valley; at Naseby, Kyeburn, Mount Buster, Hyde, Hamilton's, Sowburn, Garibaldi, and several other localities in the Taieri watershed; at Hill's Creek, St. Bathans, Vinegar Hill, Cambrians, Tinker's, Ophir, and many other localities in the Manuherikia Valley; at Tuapeka, Waitahuna, Roxburgh, Bald Hill Flat, Alexandra, and the Dunstan (or Clyde), in the Middle Clutha Valley; at Bannockburn, Cromwell, and many localities in the Upper Clutha Valley; in the Nevis Valley and Kawarau Gorge, and in the Arrow and Shotover Rivers, numerous and famous diggings have been, and still are being, worked; also in Southland and south-west Otago, at Round Hill, Orepuki, and Wilson's River.

Gold-dredging.—During recent years much attention has been paid to dredging for gold, especially in the Otago District, and with very satisfactory results in many instances. It has been computed that there are a hundred dredges at work and in course of construction, and that each dredge will, on an average, provide direct employment for seven to ten persons when fully equipped and at work; while a number of others are indirectly employed in mining and carting coal for the dredges. The engineering shops in Dunedin have been very busily engaged for a considerable time past, and now orders are being executed in that city for dredges for New South Wales, it being generally acknowledged that Otago leads the world so far as gold-dredging is concerned. We have gone to California for improvements in milling and chlorination, but California is now copying our methods of dredging, and closely watching what is being done in New Zealand with regard to saving gold by the cyanide process.

Auriferous Iron-sands.—On the West Coast of the Middle Island, from near Cape Farewell to Preservation Inlet, the sea-beaches show the presence of magnetic iron-sands, and often such sands form a considerable part of the total material of the beach between high- and low-water marks. Such sands are at almost all places auriferous, and for the past thirty years have been profitably worked for gold. At first these deposits were extremely rich, and were worked again and again, as often as the material was acted upon by a heavy surf during storms, or rearranged more slowly by the action of the tides. Beach-workings are carried on from thirty miles north of the mouth of the Buller River to the southern extremity of the Island; on the East Coast, along the northern shore of Foveaux Strait and the South Coast of Otago to the mouth of the Molyneux River, and along the coast in a northerly direction to the boundary of the Otago Provincial District. At higher levels successive terraces of auriferous iron-sands are met with on the West Coast, principally between the mouths of the Buller and Hokitika Rivers — at Addison's Flat, Charleston, and Brighton; Darkie's Terrace and Rutherglen, near Greymouth; Ballarat Hill, in the Waimea Valley; and the Houhou Lead, near Hokitika: also, in some of the larger rivers of South Westland. On Addison's Flat and at Charleston the iron-sands are developed on a most

extensive scale, and have yielded great quantities of gold. Between Charleston and Brighton these deposits rise to a height of 600 ft. above the sea; more to the south they gradually attain to lesser elevations, and south of Hokitika are but little above sea-level. On the shores of Foveaux Strait, except at Orepuki and near the mouth of the Waiau River, these deposits do not extend any distance inland, or attain more than a very moderate height above the level of high-water mark. East of the Bluff, and from the vicinity of Dunedin to the northern boundary of the Otago Provincial District, the auriferous black-sand deposits are confined to the limits between high- and low-water marks, or to less than 25 ft. above that. Along the East Coast, within the Canterbury Provincial District, payable auriferous sands have been worked between Lake Ellesmere and the mouth of the Rakaia River; but for the most part these sands are grey or garnetiferous, and do not contain notable quantities of magnetite. The great richness in gold of the magnetic iron-sands found in such abundance on the West Coast enabled them to be worked with profit when the means employed were both costly and of a rude description. At many places the yield was phenomenal; and, wherever water is available, black-sand claims are still in favour amongst the miners, and many of these claims still continue to give handsome returns on the outlay and labour expended upon them.

SILVER.

Silver has been found in various localities, and occurs mixed with the gold in Coromandel, Thames, Ohinemuri, and Te Aroha Gold-fields. Argentiferous lodes have been found at Puhipuhi, in Whangarei County; at the Great Barrier Island; in the watershed of the Wangapeka and Owen Rivers, in the Nelson District; in the Mount Rangitoto Range, Westland; and at Preservation Inlet. The total quantity exported up to 31st December, 1897, has been 1,085,162 oz., valued at £202,724.

COPPER.

Copper has been worked at the Great Barrier and Kawau Islands, in the North, and at Aniseed Valley, in the Nelson District. Deposits have been found at D'Urville Island, Dusky Sound, Preservation Inlet, and in Otago at Waipori and Moke Creek. A lode of chalcopyrite-ore was discovered and examined at Whangaroa by Mr. Alexander McKay, F.G.S., Government Geologist, who states that "the ore at the surface consisted mainly of iron pyrites, but many of the blocks, on being broken into, showed the presence of yellow copper-ore of good quality, and the sample originally thus taken and tested at the Colonial Laboratory, Wellington, yielded over 30 per cent. of copper." A lease has been granted to the prospectors, who are now developing the lode, and other leases have been applied for in the same neighbourhood. A few years ago the Government Geologist directed attention to the occurrence of copper-ores in the rocks of the second gorge of the Arahura River, in Westland, stating that

"although no rich concentrations of copper-ores, in the form of true lodes, were discovered, it will not be doubted that such exist; and in this respect the second gorge of the Arahura is well worthy of being subjected to further examination. That considerable bodies of the yellow sulphides of copper exist in this direction is scarcely to be doubted since masses of such ore have been found in the auriferous drifts of Kumara." The total quantity of copper-ore exported from the colony has been 1,394 tons $5\frac{1}{2}$ cwt., valued at £17,868.

ANTIMONY.

Antimony occurs at Endeavour Inlet, near Cook Strait, where large smelting-works were erected by the New Zealand Antimony Company, which exported a considerable quantity of ore and star antimony; but, owing to the low prices prevailing for the metal, very little work has been done for some time past. At the Taieri River, Otago, near Barewood, and at the Carrick Range, in Central Otago, antimony has been found; at Reefton, on the West Coast, in connection with auriferous quartz; and at Puhipuhi and the Bay of Islands, in the northern portion of the colony. The total quantity of star antimony and ore exported up to 31st December, 1897, has been 3,610 $\frac{1}{2}$ tons, valued at £52,361.

TIN.

Tin-ore is found widely distributed amongst the gravel drifts in the vicinity of the Remarkables, in Stewart Island; and following the ridge of these mountains a lode was discovered containing wolfram; but so far very little has been done in the way of working these deposits.

MANGANESE.

Manganese-ores have been found in many parts of the North Island—at Waiheke and Kawau Islands, Puera Bay, Helena Bay, Mangapai, Hikurangi, Hawke's Bay, and Wellington; also near Port Hardy and D'Urville Island, Nelson. Braunite (manganese oxide) occurs on Malvern Hills, Canterbury; and rhodonite (silicate of magnesia) at the Dunstan, in Otago. The total quantity exported up to the 31st December, 1897, was 18,285 $\frac{1}{2}$ tons, valued at £58,534.

LEAD.

Lead occurs as galena in many parts of the colony, and generally contains a certain percentage of silver. On the Hauraki Goldfields it occurs in auriferous lodes, and is invariably associated with zinc-blende. At Wangapeka, Collingwood, at the Owen Reefs, in the Nelson District, and at Mount Rangitoto, in Westland, some of the quartz-lodes carry a large percentage of galena; and argentiferous lead-ore from Richmond Hill, Collingwood district, gave a high assay-value. During his geological explorations in the vicinity of Preservation Inlet the Government Geologist discovered lodes of argentiferous galena.

IRON.

Large deposits of hæmatite occur in different parts of the colony. At Parapara, in the Nelson District, there is a belt of limestone alongside a big deposit, analyses of which have given from 30 to 40 per cent. of iron, and there is bituminous coal within a few miles of it. At the Dunstan, in Otago, near Kamo, in Whangarei County, and at Tararu Creek, Thames, hæmatite has been found. Bog-iron ore has been got at Spring Swamp, in the Auckland District, samples of which yielded 51 per cent., and brown-iron ore at Raglan, giving 40 to 50 per cent. On the ocean-beaches on the west coast of both Islands large quantities of magnetic ironsand are deposited along the sea-shore, showing that there is an abundance of iron-ore in the colony, and extending over a large area. At Collingwood and the Thames hæmatite is used in the manufacture of paint, which is very valuable as a preservative for iron-roofs and wooden buildings, the latter being rendered comparatively non-inflammable when coated with it.

CINNABAR.

Cinnabar has been found in the auriferous drift gravels at Wai-pori, Otago, and between that goldfield and Waitahuna. In the bed of a gully at Puhipuhi, Whangarei County; at Tui Creek, near Te Aroha; in the bed of the Waiorongomai Stream, on the opposite side of the Te Aroha Range; and at Ohaeawai, in the Bay of Islands County, on the side of the range near some hot pools, quicksilver in its metallic state has been frequently met with in minute globules amongst the fine black sediment in the valley. A discovery was made last year in the Kauaeranga Valley, about six miles from the point at which the river enters the Firth of Thames at Shortland. Mercury-ore, as cinnabar, was found along the hill-slopes on the bank of the Otonui, a tributary of the Mangakirikiri, over a distance east and west of about 6 chains, a number of analyses made at the Thames School of Mines giving a minimum of 2 per cent. and a maximum of 25 per cent. The Government are offering a bonus of 4d. per lb. on the production of the first 100,000 lb. of good marketable quicksilver, free from all impurities, and this will doubtless have the effect of stimulating production.

SCHEELITE.

Scheelite is found at Macrae's, Waitahuna, Waipori, Cromwell, and Wakatipu, in Otago; and at the Wakamarina, in Marlborough. A company was formed some years ago to work a mine at the head of Lake Wakatipu, where the ore was found intermixed in pockets or bunches in a quartz-lode. Thirty-seven tons shipped to Germany realised from £17 to £29 per ton for ore containing about 62 per cent. of the mineral.

CHROME.

Lodes of chrome-ore, which are chiefly associated with magnesian rock, have been worked in the vicinity of Aniseed Valley and

the Dun Mountain, in Nelson District, but nothing has been done of late years. Between the years 1858 and 1866 there were 5,666 tons exported, valued at £37,367.

GRAPHITE.

Graphite has been traced in the pure state embedded in the marbles from the West Coast. In the Nelson District, at Malvern Hills, in Canterbury, at the Dunstan, in Otago, at Pakawau, in the Wellington District, and at the Kapuni, in Taranaki, impure varieties have been found.

OPALS AND RUBIES.

Opals of high quality have been found in the Tairua and Ohinemuri Valleys, in the Cape Colville Peninsula; and rubies have been got near Rimu, in the Westland District, intermixed with alluvial drift.

COAL.

Coal seams of considerable thickness are being worked at several places in the North Island—at Kawakawa (Bay of Islands), Whangarei, and Waikato; in the Middle Island, at the Grey River, Mount Rochfort, near the Buller River, Malvern, Green Island, and the Clutha Valley. Brown coal and lignite are widely distributed over Otago, and are of great importance in the development of gold-mines, woollen-manufactories, and other industries. The bituminous coal found on the west coast of the Middle Island is, perhaps, equal to any coal in the world, the tests made at the Admiralty Dockyards having shown it to be of very high quality for heat-generating purposes. The total area of the coalfields of the colony is estimated at nearly half a million acres, and the approximate total output, up to 31st December, 1897, was 11,576,613 tons, the quantity exported being 974,999 tons, valued at £958,241.

KAURI-GUM.

Kauri-gum is a very important industry in the Auckland District. The total area of the gumfields is computed at upwards of 1,500,000 acres, and 5,000 to 10,000 men make a living by digging the gum from the ground, their earnings varying from £1 to £2 per week; while hundreds of settlers living near the fields put in their spare time profitably at the same occupation. Gum-digging is a standing resource for the unemployed of the Auckland Provincial District, and the export of gum, which principally finds its way to New York, where it is used in the manufacture of varnishes, has helped to tide the merchants of the City of Auckland over periods of commercial depression. From 1853 to the 31st December, 1897, there were 190,571 tons exported, valued at £8,512,852.

PETROLEUM.

Indications of petroleum are found in the east district of Auckland, at Poverty Bay, and in the Waiapu Valley; and indications of mineral oil have been found at Taranaki, where it has been known to exist since 1866. Attempts have been made in recent years to

obtain oil in commercial quantities, but up to the present time the results have not quite justified anticipations. Several bores have been put down, one to a depth of over 2,000 ft. Mr. Oliver Samuel and other local capitalists have expended considerable sums of money in carrying on boring operations.

SULPHUR.

Sulphur is found in several parts of the North Island, and near Rotorua it is being profitably worked, most of the sulphur going to Sydney. The quantity exported last year was 1,481 tons, valued at £4,703.

EXPORT OF GOLD, SILVER, AND OTHER MINERALS.

The following table shows the export of gold, silver, and other minerals from the 1st April, 1857, to the 31st December, 1897 :—

Mineral.	Ounces or Tons.	Value.
		£
Gold	13,565,552 oz.	53,372,634
Silver	1,085,162 "	202,724
Copper-ore	1,394½ tons	17,868
Antimony-ore	3,610½ "	52,361
Chrome-ore	5,666 "	37,367
Manganese-ore	18,285½ "	58,534
Hæmatite-ore	52½ "	226
Coal	974,999 "	958,241
Kauri-gum	190,571 "	8,512,852
Mixed mineral-ores	15,874 "	78,782

RECENT MINING LEGISLATION.

During the last parliamentary session four Acts were passed having a relation to the mining industry—namely, "The Sunday Labour in Mines Prevention Act, 1897," "The Mining Companies Acts Amendment Act, 1897," "The Cyanide Process Gold-extraction Act, 1897," and "The Explosives Act Amendment Act, 1897." The principal provisions of these Acts may be briefly sketched :—

The Sunday Labour in Mines Act prohibits the employment of skilled or unskilled manual labour in mines on Sunday; but the Inspector of Mines is empowered to grant permits in cases where he is satisfied that work cannot be suspended without risk of injury to the mine or its operations, and on the 30th June (six months after the Act came into operation) permits were issued for 356 men in the Northern, fifty-eight in the Southern, and thirty-six in the West Coast mining districts. A right of appeal is given to the Warden of any district in respect to the granting or refusing of permits. For any breach of the Act a penalty not exceeding £5 is provided, and in the case of a company the mine-manager and directors are liable to the same penalty; but there is a proviso that it shall be a sufficient defence if the Court is satisfied that the employment was rendered necessary by reason of breakage or other special emergency involving danger to life or damage to property. Nothing

in the Act shall be construed to affect the operation of section 16 of "The Police Offences Act, 1884" (which prohibits working at any trade or calling, or the transaction of business of any kind, on Sunday); but a proviso is made that no person shall be punished twice for the same offence.

The Mining Companies Acts Amendment Act, 1897, provides that every company or corporation duly registered or incorporated elsewhere than in New Zealand and formed for mining purposes within the meaning of the principal Act or "The Mining Act, 1891," or having such purposes amongst its objects, shall be deemed to be a foreign company, and whilst carrying on mining operations in New Zealand shall make adequate provision for the registration in the colony of the transfer of its shares, and for the execution and issue of scrip certificates or other documents of title; shall cause to be kept at its registered office in the colony a branch or colonial register containing the names, addresses, occupations, and other particulars of shareholders who make application in writing to be entered therein; and shall appoint and empower an attorney in the colony to do all that is necessary in connection with the transfer or issue of shares. The company may prescribe the mode in which shareholders shall apply to be entered in the colonial register, or to be removed from the colonial to the foreign, or from one to the other register; but it shall not be lawful for any shareholder to be entered on both the colonial and foreign registers at the same time in respect of the same shares. Fees (not exceeding one shilling) may be prescribed to be paid on each application for entry or removal, a reasonable time (not exceeding four months) to elapse between the application being made and the entry or removal effected. Every company shall, within three months after any report or balance-sheet is submitted to any meeting of its shareholders held out of New Zealand, file in its registered office in the colony a true copy of such report or balance-sheet, and shall permit the same to be inspected at all reasonable times by any shareholder without fee. A penalty not exceeding £5 is provided for every day during which default to comply with the Act continues against the defaulting company, and every director, attorney, secretary, manager, or other person acting in the management thereof; and if default continues for the space of three months, the company shall be incapable thereafter of carrying on business in the colony. As to the sale of forfeited shares in other than no-liability companies, section 4 provides that notice shall be sent by registered letter to the holder of such shares not later than seven days after they are forfeited; the shares to be offered for sale by public auction without reserve, not earlier than twenty-eight nor more than forty-two days after forfeiture; the date and place appointed for such auction to be advertised in a newspaper circulating in the locality where the registered office of the company is situated or its mining operations carried on, not less than seven nor more than fourteen days before such sale. As to no-liability companies, subsection (5) of section 130 of the principal Act (relating to the sale and for-

feiture of shares in no-liability companies) has been repealed, and in lieu thereof it is provided that any share upon which a call remains unpaid at the expiration of fourteen days after the date of payment shall thereupon be deemed to be absolutely forfeited, without any resolution of the directors or other proceeding. Every forfeited share shall be offered for sale by public auction in the manner already provided for, and if the manager or secretary of the company fails to comply with any of the provisions he is liable to a penalty not exceeding £10. A discretionary power is given to the directors to withdraw the shares from sale if they cannot be sold for a sum sufficient to pay the unpaid call. Forfeited shares withdrawn, or for which there is no bid, must be registered in the name, and until re-issued shall be the property, of the company. The proceeds of forfeited shares, after payment of unpaid call and expenses of advertising, &c., shall be paid to the owner on delivery to the company of the scrip certificate. In every case where a debt is incurred by a no-liability company the directors by whose authority such debt was incurred shall, jointly and severally, be personally responsible for payment thereof; but a proviso is made that no director shall be liable in respect of any debt which he proves was incurred without his knowledge, or if with his knowledge, then without his consent, and in spite of his protest made in writing at the time. With regard to the general provisions of the Act, section 7 provides that it shall be the duty of every company, within three months after the coming into operation of the Act, to issue scrip certificates to every shareholder in respect of his shares. It shall not be lawful to transfer shares unless the scrip certificate is lodged in the registered office of the company before the transfer is registered, and no fee shall be payable in respect of any scrip certificate issued originally or pursuant to any transfer. In case default is made in complying with any of the provisions of this section, the defaulting company, and every director, secretary, or manager thereof, are severally liable to a penalty not exceeding £5, and in case of a continuing default, to an additional penalty not exceeding £5 for every day after the first, during which such default continues. Section 32 of the principal Act (which provides that half-yearly statements of affairs and transactions are to be made, and printed copies served upon the Registrar, accompanied by a statutory declaration verifying same) is amended by omitting the word "printed." Section 9 provides for the remuneration in any case where in the winding-up of a company the liquidator is the Deputy Official Assignee, the sum in no case to exceed the amount paid into the Consolidated Fund in respect of such winding-up. Section 10 provides that the Governor may from time to time make regulations for the purpose of giving fuller effect to any of the purposes or provisions of the principal Act or of the amending Act, and may impose a penalty not exceeding £5 in respect of any breach thereof. The Fourth Schedule of the principal Act (relating to statements of affairs of companies) may be altered, and special forms of statements prescribed in respect of the affairs of foreign companies. Section 11 provides that agree-

ments to work on tribute in any claim, special claim, or licensed holding shall be in writing, and a shilling stamp affixed thereto.

The Cyanide Process Gold-extraction Act provides for the purchase of the MacArthur-Forest cyanide patents and processes for a sum not exceeding £10,000, with a view of rendering these processes available for mining purposes at reasonable rates of royalty, which have been since fixed by regulation as follows: $1\frac{1}{2}$ per cent. where the value does not exceed £3 per ton; 2 per cent. where the value exceeds £3, but does not exceed £4, per ton; and $2\frac{1}{2}$ per cent. where the value exceeds £4 per ton. It shall not be lawful for any person to directly or indirectly use or employ the patent rights for the purpose of extracting gold or silver from ores or other compounds unless he is the holder of a license under the Act, a penalty not exceeding £10 being provided for every day during which such breach continues, and also an additional penalty of twice the amount that would have been payable in respect of royalty if he had complied with section 8 of the Act by obtaining a license, an estimate by the Inspector of Mines to be sufficient evidence of the amount of such royalty until the contrary is proved. The Waihi, Waitekauri, Union-Waihi, and New Zealand Crown Mines Companies (which had previously entered into agreements with the Cassel Gold-extracting Company, Limited) are exempt from these provisions. Licenses are to be issued by the Warden, and the royalty is payable to the Receiver of Gold Revenue for the mining district where the license is issued. All moneys received in respect of royalties, penalties, &c., are to be paid into the Public Account and form part of the Consolidated Fund, and a statement of same prepared and laid before Parliament annually. Royalties are to cease as soon as all moneys expended in connection with the purchase of the patent rights are recouped. So long as sections 8 to 14 of the Act continue in operation no action or proceeding shall be brought against the Crown to impeach the validity of the patent rights. The Governor is empowered to make regulations, and may impose a penalty not exceeding £10 for any breach thereof. Powers are reserved to the Cassel Gold-extracting Company to recover, up to 5 per cent. of the total value of the gold and silver produced, from any person or company using its processes or infringing the patent rights, previous to the purchase by the Government of the said rights.

The Explosives Amendment Act empowers the Governor to make regulations for the importation of explosives into New Zealand; to prevent and prohibit the importation into, or the manufacture, storage, transport, or sale in, the colony of explosives which, by reason of their composition, quality, grade, or character, are in his opinion too dangerous for use; to condemn all such explosives, and provide for their destruction or other disposal; to provide for the inspection and testing of explosives; such other purposes as he deems expedient in the interests of the public safety; and to impose penalties, in no case exceeding £50, for the breach of any regulations made under section 3 of the Act.

SECTION III.

THE THERMAL-SPRINGS DISTRICT, AND THE GOVERNMENT SANATORIUM AT ROTORUA.

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CLIMATE OF ROTORUA.

THE geographical position of the North Island of New Zealand will naturally suggest something of the character of its inland climate at an elevation of 1,000ft. Rotorua is some forty miles from the coast. Its elevation is 990ft. above the sea-level. The atmosphere is drier and more bracing than on the coast—in winter considerably colder, and in summer perhaps somewhat hotter, but of a dry pleasant heat, free from the moist oppressiveness which characterizes the summer heat of Auckland and other coast towns. The mean temperature of spring is 53°, of summer 66°, of autumn 57°, and of winter 45°. The relative moisture of the air for the four seasons (taking complete saturation at 100°) is—for spring, 74°; for summer, 66°; for autumn, 67°; and for winter, 74°. The steam which rises so abundantly and perpetually all over the district no doubt adds considerably to the moisture of the atmosphere. This was clearly shown in the month of June, 1886, when the great eruption of Tarawera took place. The relative moisture for that month was 10° in excess of the average, owing to the immense amount of vapour caused by the eruption. The rainfall for the year is about 60in., and the number of days on which rain falls about 140. Auckland has 18in. less rain, and thirteen more rainy days. The daily range of temperature is greatest in the summer and least in the winter. This obtains throughout the whole of New Zealand, and is, indeed, one of the most charming features of our climate. No matter how hot a summer's day may be, the nights are invariably cool. The mean daily range of temperature for spring is 21°, for summer 28°, for autumn 23°, and for winter 20°.

These annual means, it must be remembered, are based on observations extending over ten years only, and consequently have no more than a relative value. For example, the rainfall for the six years ending with the year 1891 averaged 50in. per annum, but in 1892 it was 67in., and in 1893—an exceptionally wet year—it reached 93in.; so that for these averages to have an absolute value they must be based on observations extending over a far longer period. The annual mean temperature for 1894 was 55°, and the rainfall 55·22in.

The annual means for the year ending 31st March, 1898, stand thus: Mean barometer, 29.41°; mean maximum shade temperature, 65.2°; mean minimum shade temperature, 44.6°; annual mean temperature, 54.6°; mean daily range, 20.2°; mean solar radiation, 112.9°; mean terrestrial radiation, 39.6°; mean relative moisture (saturation = 100), 77°; total rainfall in inches, 70.63; total days on which rain fell, 167; mean amount of cloud (0, clear sky; 10, overcast), 6.0.

The most agreeable months of the year for an invalid to visit Rotorua are February, March, and April; the least pleasant are August, September, and October; but, as there is ample boarding accommodation close to the baths, the invalid is virtually independent of the weather. A climate better adapted to the necessities of the class of patients visiting this health-resort could not be desired. They are, as a rule, persons in fairly vigorous health, in whom it is desirable to maintain the normal power of adaptation and resistance to climatic changes. A climate in which the same conditions prevailed for long periods of the year would fail to secure this end; but one in which the various factors of temperature, moisture, light, electricity, wind, and atmospheric pressure are subject to moderate variations is, in every way, the one to be desired.

It is most desirable that invalids visiting Rotorua should be well informed as to the character of our climate. I have found that considerable misapprehension exists on this point, particularly amongst our visitors from Otago and Southland, their impression being that Rotorua is a very warm place, and that in summer they have to bring only the lightest possible clothing. This is a great mistake, as will be understood at once when I say that in February and March it is not uncommon to find in twenty-four hours a thermometric range of 100 degrees between the solar and terrestrial radiation temperatures. Our visitors, therefore, should provide themselves with both light and heavy clothing, no matter at what season of the year they may arrive.

AREA OF THERMAL-SPRINGS DISTRICT.

The Thermal-Springs District of New Zealand comprises an area of upwards of 600,000 acres, or close on 1,000 square miles. The length of the district is some fifty miles, with an average breadth of twenty miles. Its altitude varies from 1,000 ft. to 2,000 ft. above the sea-level.

PHYSICAL FEATURES.

The most striking physical features of this region are the extensive pumice-plains, intersected in various directions by high ranges of igneous formation, which are relieved here and there by enormous trachytic cones. Forests of extraordinary luxuriance and beauty clothe the mountains and border the extensive plateaux, while hot lakes, boiling geysers, and thermal springs are dotted far and wide over the country. The Thermal-springs District, however, as

defined on the maps, by no means embraces the whole volcanic and hydrothermal activity of the Island. Although the volcanic slopes of Ruapehu and Tongariro bound this region on the south, hot springs are found here and there for fully 250 miles beyond its western boundary—in fact as far north as the Bay of Islands. Within the district it is no exaggeration to say that hundreds of hot springs exist, to say nothing of mud-volcanoes, solfataras, and fumaroles.

VARIETIES OF MINERAL WATERS.

These springs are of the most varied chemical character, and of every degree of temperature from 60° to 212°. Numbers have yet to be submitted to analysis. Those which have been examined in the laboratory of the Geological Survey Department in Wellington are divided by Sir James Hector into five classes: (1) *Saline*, containing chiefly chloride of sodium; (2) *alkaline*, containing carbonates and bicarbonates of soda and potash; (3) *alkaline-siliceous*, containing much silicic acid, but changing rapidly on exposure to the atmosphere, and becoming alkaline; (4) *hepatic*, or *sulphurous*, characterized by the presence of sulphuretted hydrogen and sulphurous acid; and (5) *acidic*, containing an excess of sulphuric or hydrochloric acid, or both. In addition to these we have saline waters, containing iodine, cold acidulous chalybeates, and saline acidulous chalybeates. These, however, are in situations at present inaccessible to the invalid, or, if not out of reach, at least destitute of the conveniences and comforts essential to the sick, but they are no doubt destined in the near future to attain a high medical reputation.

THE ROTORUA SANATORIUM: NAMES OF THE PRINCIPAL BATHS.

The Government of New Zealand has very wisely chosen the southern shore of Lake Rotorua as the basis of operations for opening-up this wonderful district. Here are grouped together numerous examples of the five classes of springs I have mentioned, and here the Government fixed their first sanatorium and bathing establishment. The sanatorium reserve at Rotorua comprises an area of some 50 acres, bounded on the north and east by the lake, and on the west and south by the Township of Rotorua. Fifteen years ago this was a howling wilderness, covered with manuka scrub, and diversified only by clouds of steam rising from the various hot springs. Here the adventurous invalid of that day had to pitch his tent, and be satisfied with a hole in the ground for a bath; and if the spring he wished to use happened to be too hot for his purpose he probably had to dig the hole for himself, and regulate the supply and temperature of the water to the best of his hydraulic ability. In many instances he immortalised himself by giving his name to the spring—a name still retained. Thus we have "Cameron's Bath," "McHugh's Bath," "Mackenzie's Bath," and "The Priest's Bath." Other springs have received their names from some real or imaginary quality. Thus we have "Madame Rachel," "The Pain-killer," "The Coffee-pot,"

and "The Blue Bath." Now this scene of desolation is completely transformed. Walks and drives planted with evergreen trees traverse it from end to end, fountains—amongst which are the artificial intermittent geysers constructed by the late Mr. C. Malfroy—and flower-gardens delight the eye, and commodious buildings for the entertainment of invalids are springing up on every side. The principal of these are the Sanatorium Hospital, the medical residence, the 'Priest's Pavilion, the Rachel Pavilion, the Ladies' Swimming-bath, the Blue Swimming-bath (to which is attached the sulphur-vapour bath), and Brent's boardinghouse.

Considerable improvements in the way of extended accommodation have been carried out, both at the Swimming Bath and at the Rachel Pavilion. From the former the natural sulphur-vapour bath has been separated, and made a distinct department, so that it may be used by ladies while gentlemen occupy the swimming bath, and *vice versâ*. At the Rachel Pavilion, four new private baths have been constructed, with two dressing-rooms attached to each. This is a distinct advance, enabling the attendant to put two bathers through the one bath in the time usually occupied by one bather when the bath-room is used both for dressing and undressing.

During the past season of 1897-98 the existing twelve private Rachel Baths, used chiefly in the treatment of skin affections, have proved quite inadequate to the demand upon them. The number of cases of skin-disease resorting to Rotorua for treatment is rapidly increasing: due, no doubt, to the remarkable cures of eczema effected here, and to the resulting change in the opinion of many New Zealand medical men as to the propriety of constant bathing for this disease. To meet the demands of next season at least eight additional private baths will be required, and, in order to keep them supplied, the whole of the outflow from the Rachael Spring must be conserved, which will necessitate additional concrete cooling-pans. The filling of the Ladies' Swimming-bath with this water, together with two large public *piscinæ*, and say, twenty private baths, will tax the yield of this spring to the utmost. The additional concrete coolers are now completed. They cover an area of 2,250 square feet, are 2 ft. deep, and capable of containing 27,500 gallons of water, so that the whole of the outflow from the Rachel Spring is now conserved, and no doubt the additional private baths we require will be constructed in due course.

At the southern corner of the Rachel Pavilion a large addition in the way of a ladies' swimming-bath has been constructed. It is 48 ft. by 24 ft., from 3 ft. to 4 ft. deep, and capable of accommodating twenty bathers at one time. Its capacity is 25,200 gallons, and its temperature will be maintained at about 96°. It is provided with dressing-rooms and shower-baths. This supplies a long-felt want, as the previous arrangement of having hours set apart for ladies to use the gentlemen's swimming bath was, for obvious reasons, unsatisfactory.

The most noticeable addition to our bathing accommodation

effected recently has been the construction of the new sulphur baths, commonly known as the "Postmaster." They are situated on the western shore of the lake, at a distance of about half a mile from the Priest and Rachel Pavilions, and are approached by a good carriage-drive. They consist of two large public *piscinæ* (each 24 ft. by 12 ft.) and four smaller ones (each 12 ft. by 10 ft.), one of the former and two of the latter being appropriated to each sex. There are twenty dressing-rooms, ten in each department. It has been found necessary to leave the baths open to the air, as the gases arising from them are apt to produce vertigo and fainting unless they are exposed to very free ventilation. In the summer weather they will be sheltered from the sun by canvas awnings. Recently verandahs have been built opposite the dressing-boxes, adding greatly to their comfort and convenience. The temperature of the spring supplying these baths is 114° Fahr., and the outflow varies from six to seven thousand gallons per hour. The water rises through a fissure in the rock of considerable length, and an efficient method of regulating the temperature was devised by our late ingenious engineer, Mr. Malfroy. It consists of a series of sluices, one of which is connected with each bath; if all the sluices are closed the water cools by natural radiation of heat, and if any sluice is opened the bath fed by it rises in temperature.

These baths are increasing rapidly in popularity as curative agents in all forms of rheumatism, gout, and neuralgias. There still are a few cases of fainting and involuntary muscular twitching, without loss of consciousness, among men using these baths. The women appear to enjoy a singular immunity from these troubles, due, most likely, to the gases arising from their baths being either less in quantity or different in quality. The baths are now complete in their appointments. An abundant supply of cold water from the town main has been introduced; cold showers and warm douches have been constructed; also two comfortable waiting-rooms, each containing five couches. A competent married couple act as male and female attendants.

The rules posted up in these baths for the guidance of bathers are as follows: "In order that these baths may be used in comfort and safety, bathers should observe the following rules: (1) Sit quietly in the water, so as to avoid any unnecessary disengagement of gases; (2) Do not sit immediately over any spot where gases are rising through the water; (3) If any breeze is blowing, sit with the back to windward, that the gases may be blown from and not towards the bather; (4) Never remain in the water longer than fifteen minutes, and in the event of any disagreeable sensation coming on, leave the bath at once."

THE HOSPITAL.

The hospital, which was opened in 1886, was unfortunately destroyed by fire in November, 1888. A new and far larger building has lately been erected by the Government. It is designed to

accommodate twenty-one patients—twelve males and nine females. The stipulations made by the Government with regard to admission are that the patient shall be able to show that his case is one likely to be benefited by the use of the baths, and that he is unable to pay the usual hotel or boarding-house charges.

THE REGULATIONS AND TARIFF.

The following is a copy of the regulations under which patients are admitted to the institution :—

1. Applications for admission of persons shall be addressed to the Resident Medical Officer at the Sanatorium, Rotorua.
2. No person shall be admitted (unless in accordance with Regulations 5, 6, and 7) except on the recommendation of the Hospital or Charitable Aid Board of the district to which he belongs, or of the Trustees of the benevolent society or hospital (if separate institutions) of the town in which he lives.
3. The charge for maintenance and treatment is £1 1s. a week.
4. The Board or Trustees, in making such recommendation, shall guarantee the cost of such patient, shall send him or her at their own charge to Rotorua, be responsible for his or her return-passage, and provide a sufficient supply of clothing. They shall also furnish a report on the case by a duly-qualified medical practitioner, in order that it may be seen whether the case is one that is likely to profit by treatment at the Sanatorium.
5. Members of any duly-registered friendly society may be admitted, on the recommendation of the lodge to which they belong, on the same terms as patients recommended by a Hospital or Charitable Aid Board, and Regulations 3 and 4 shall be read as applying to them in all respects: Provided that not more than three such persons shall be resident at the Sanatorium at any one time, and that all the hospital beds are not required by patients admitted under Regulation 2.
6. When all the beds are not occupied by patients admitted under Regulations 2 and 5, the Resident Medical Officer may at his discretion admit persons, being *bonâ fide* hospital cases, who have undertaken to pay 30s. a week for maintenance and treatment.
7. When all the beds are not occupied by patients admitted under Regulations 2, 5, and 6, persons may be admitted on the following conditions:—
 - (1.) That the Resident Medical Officer has certified that each such person is likely to be benefited by treatment at the Sanatorium.
 - (2.) That the expenses to and from Rotorua are provided by each such person, together with a sufficient supply of clothing.
 - (3.) That not more than four such persons shall be resident at the Sanatorium at one time.
8. The stay of each patient is limited to three months, but the Resident Medical Officer can, at his discretion, extend the period to six months.

This means, in brief, that patients sent by the Charitable Aid Boards of the country are to be admitted at all times at one guinea per week; that three beds may be occupied by members of registered friendly societies on the same terms; that not more than four free patients shall be resident at the same time; and that if all the beds are not occupied by the three classes of patients enumerated, the medical officer may, at his discretion, admit suitable cases paying for themselves at the rate of 30s. per week. Such patients, if they wish to avoid disappointment, should not leave their homes until they have communicated with the resident medical officer, and been

assured by him that their cases are suitable, and that they will be admitted on arrival.

It should be distinctly understood that Hospital Trustees, or Charitable Aid Boards, or Friendly Societies recommending patients to this institution are held responsible for payment in case such patients are unable or fail to pay for themselves.

It cannot be too widely known that there is no private accommodation in this institution: whatever the regulations under which the patients are admitted, they are on equal terms; they take their meals together in the same hall; the women have their own sitting-room, and a dormitory containing nine beds; and the men have their sitting-room, and a dormitory containing twelve beds. Patients are admitted for three months, and if, in the opinion of the medical superintendent, a second period of three months is desirable, it is granted; but in all cases six months is the extreme limit.

The great object of this institution, as at present constituted, is to enable the Charitable Aid Boards of the country to send up for treatment a class of patients who would not otherwise be able to avail themselves of the springs, while at the same time in no way interfering with the private enterprise of hotel and boarding-house proprietors.

ANALYSIS AND ACTION OF THE WATERS.

Patients who frequent our springs are always anxious to see the analysis of the waters in which they bathe, and are usually under the impression that they absorb into their systems the entire list of salts enumerated. This is an error. The body cannot absorb any salts from an aqueous solution. If the water, or any portion of it, is allowed to dry on the skin, a minute quantity of the constituent solids, of course, remains, which, through the friction of the clothing, becomes incorporated with the fatty elements of the integument, and is eventually absorbed. After a course of sulphur baths the underclothing is redolent of sulphur for some time after leaving the springs, and silver carried in the pockets becomes blackened, showing that a considerable amount of sulphur has been absorbed in the manner described. The shipwrecked sailor adrift in a boat finds his thirst relieved for a time by saturating his shirt with sea-water; if he absorbed the salt his suffering would be only intensified, but the wet shirt, by temporarily checking the transpiration and evaporation of moisture from his body, affords him relief. The direct influence of hot mineral water used for bathing—apart from the effect of temperature—is twofold, according to its chemical character: it either excites and stimulates the nervous and vascular elements of the skin, as in the case of acid sulphur waters; or it exercises a soothing and emollient effect, as in the case of alkaline siliceous waters. We should never lose sight of the fact that the skin is the most important emunctory of the body; and that, as a means of maintaining its normal functional activity, bathing, well-advised and regulated,

is the most efficient agent we can employ; and that in skin diseases especially our cures are brought about not by any absorption of fixed salts contained in the water, but by the prolonged maceration of the cuticle, causing the ready removal of the *débris* of dead and diseased cells, and their gradual replacement by cells of a more healthy character, due to the employment of a suitable regimen and the influence of a highly vitalising climatic environment.

PROPERTIES OF THE PRINCIPAL BATH SPRINGS AT ROTORUA.

The following springs are those which have the most valuable properties, and whose therapeutic action is best known:—

1. *Te Pupunitanga*, or "*The Priest's Bath*," at Rotorua, only a few feet from the lake's edge; the water is strongly acidic and aluminous, depositing flocculent sulphur on the bed and sides of the bath; reaction, acid. It is considered the finest and most curative bath in the southern hemisphere. Analysis (in grains per gallon): Sulphate of soda, 19·24 gr.; sulphate of potash, traces; sulphate of lime, 7·41 gr.; sulphate of magnesia, 3·03 gr.; sulphate of alumina, 21·67 gr.; sulphate of iron, 1·24 gr.; sulphuric acid, 22·12 gr.; hydrochloric acid, 3·65 gr.; silica, 18·41 gr.—total, 96·77 gr.; also, sulphuretted hydrogen, 2·98 gr.; and carbonic acid gas, 2·16 gr. Temperature: From 98° Fahr. to 106° Fahr.; average, 99° Fahr. Special indications: Gout, dyspepsia, sciatica, skin diseases, disorders of the liver, sexual impotence, cold feet, amenorrhœa, dropsy, and all forms of rheumatism.

No spring in the district has attained a higher reputation, or proved itself more generally useful, than that known as the Priest's Bath. The variation in temperature is due to the rise and fall of the lake and the direction of the wind. When the lake is high and the wind blowing towards the baths the conditions are favourable to a high temperature, and *vice versa*, the cold water of the lake affording a more efficient barrier to the escape of heat than the open pumice-gravel of which the shore is composed. A patient emerging from his bath looks like a boiled lobster, and I regard this determination of blood to the skin as a most important therapeutic factor: the vascular and nervous apparatus of the skin is powerfully stimulated by it, and internal congestions are relieved. Our alkaline waters, on the other hand, which contain the chlorides and silicates of the alkalies, have a soothing and emollient effect on the skin, and are of great value in eczema, and other cutaneous ailments. The water of the Priest's Spring is brilliantly clear when undisturbed, and pale-green in colour. A faint odour of sulphuretted hydrogen pervades the neighbourhood, which gas, together with sulphurous acid, is copiously evolved. Since the eruption of Tarawera this offensive odour has been much modified, owing, probably, to an increased evolution of sulphurous-acid gas at that time. Fortunately for the nasal organs and general comfort of the bathers, these gases effect a mutual decomposition, resulting in the formation of

sulphur and water, thus— $2\text{H}_2\text{S} + \text{SO}_2 = 3\text{S} + 2\text{H}_2\text{O}$; which means that two parts of sulphuretted hydrogen, combining with one part of sulphurous acid, form three parts of sulphur and two of water. Wherever steam charged with these gases is able to penetrate, sulphur is deposited. This is the origin of all the sulphur in the district. It permeates readily the siliceous sinter rock, forming beautiful needle-like crystals of sulphur in the interspaces. Sulphur being thus constantly transformed from the gaseous to the solid state in the water of this spring, it is very possible that, coming into contact with the skin in this nascent and impalpable form, its therapeutic power may be considerably enhanced: there can be no doubt about its absorption, for our patients tell us that their underclothing is redolent of sulphur for weeks after returning home. The Priest's bathing-pavilion is a building 74ft. long by 44ft. wide, having a superficial area of 3,256 square feet. It is divided into male and female departments. Each department comprises two public *piscinæ*, 16ft. by 12ft., with two private baths (each 6ft. by 6ft.) for special cases, lounging-rooms, and comfortable dressing-rooms. Each bath is provided with a cold fresh-water shower, and douches either hot or tepid, thus materially enhancing the hydropathic efficiency of this remarkable water.

It is rather unfortunate that these baths are at their best in the winter, when they maintain a more even temperature and a more convenient depth. During the summer months the rapid changes of temperature they undergo give us a good deal of trouble and inconvenience.

2. *Whangapipiro*, or "*Madame Rachel's Bath*," at Rotorua.—Analysis (in grains per gallon): Chlorine of sodium, 69·43 gr.; chloride of potassium, 3·41 gr.; chloride of lithium, traces; sulphate of soda, 11·80 gr.; silicate of soda, 18·21 gr.; silicate of lime, 4·24 gr.; silicate of magnesia, 1·09 gr.; iron and alumina oxides, 2·41 gr.; silica, 5·87 gr.: total, 116·46 gr. in one gallon; also carbonic-acid gas, 3·79 gr. Temperature: Formerly 174° Fahr., but rose to 194° Fahr. after eruption in June, 1886. Special indications: Diseases of the skin, especially psoriasis. By internal administration (whereby an increase in the elimination of urea and uric acid is produced) in rheumatism, gout, and certain forms of dyspepsia.

The "*Rachel*" bathing-pavilion adjoins Te Pupunitanga, or "*The Priest's Bath*." Here we have a water diametrically opposite in character to the last described—an alkaline siliceous water having a temperature at its source of 180°. This source is a cauldron of enormous depth, situated some 200 yards from the bathing-pavilion, and yielding 50,000 gallons daily. We have a simple system of cooling by which the water may be used at any desired temperature. Here also is a separate department for either sex, each containing a public *piscina* 16ft. square, four private baths, a lounging- or waiting-room kept at a constant temperature of 70° by hot-water pipes, and dressing-rooms. The reaction of the water is alkaline, and it contains a small amount of sulphuretted hydrogen.

The delicious sense of *bien-être* produced by bathing in this water, with the soft satiny feeling it communicates to the skin, must be felt to be appreciated. It is useful in all forms of skin-disease—indeed, in eczema it may be considered a specific if continued long enough, together with a suitable regimen. I frequently recommend the internal use of this water. Its taste is not unpleasant, and its action is mildly antilithic. Waters containing silicates are said to be useful in the uric-acid diathesis, and I have certainly found it suit gouty patients admirably.

3. *Oruawhata*, a hot pool within the Sanatorium grounds, supplying the warm swimming bath, was originally a favourite Maori cooking and bathing place. Fifty years ago it was rendered *tapu* for a long period by the fact that a Maori boy, when flying his kite and running backwards, fell bodily into it and was scalded to death. However, it was used for both cooking and bathing as lately as 1880. At the time of the Tarawera eruption in 1886 it was a single irregularly-shaped pool, having two powerful springs at its northern end. These our late engineer, Mr. C. Malfroy, isolated from the surrounding water and converted into artificial intermittent geysers, thus forming not only one of the most interesting objects in the Sanatorium grounds, but a work of eminent practical utility, as we are able to convey the water from the geysers to the swimming bath at an almost boiling temperature, instead of leaving it exposed to a large cooling area, as was the case formerly. This hot basin—some 60 ft. long by 30 ft. wide—is now built round with concrete and protected by a substantial iron railing. The water is saline in character, with silicates. Analysis (in grains per gallon): Chloride of sodium, 60·44 gr.; chloride of magnesium, 1·04 gr.; sulphate of lime, 5·48 gr.; silicate of magnesia, 0·32 gr.; silicate of soda, 8·38 gr.; silicate of iron oxide, 1·42 gr.; silica, 14·20 gr.: total 91·28 gr. in one gallon. Sulphuretted hydrogen, 5·52 gr.; carbonic acid, 2·21 gr. Temperature: 140° Fahr. Special indications: Almost identical with those of the foregoing spring (Whangapipiro).

The Blue Bath is a warm swimming bath, 62 ft. long by 24 ft. wide. It is built of stone and concrete, with a smooth surface of Portland cement; has a depth of from 4 ft. 6 in. to 3 ft., and contains about 30,000 gallons of water, maintained at a temperature of 98°. This is the popular pleasure-bath of the Sanatorium, in which our rheumatic invalids are able to take exercise without undue fatigue. It was completed in 1885, and opened by Mr. George Augustus Sala. While excavating this bath the workmen struck upon a remarkable sulphur-cavern, its roof and sides thickly coated with brilliant acicular crystals of sulphur, and at its base a hot-spring yielding steam so strongly impregnated with sulphur-gases as to be quite irrespirable. This we have conducted to the surface, and employ as a sulphur-vapour bath, diluting it as occasion requires with steam of a milder character. In sciatica, and all forms of rheumatism, this is one of our most popular and efficacious remedies.

4. *Cameron's Bath* (known as "*Laughing-gas Bath*"), within the Rotorua Sanatorium Reserve, a quarter-mile from the bath-pavilion, on the shores of Lake Rotorua, at a point called Te Kauwhanga. It is a muddy pool 30 ft. in diameter, with a constant discharge of gas (sulphuretted hydrogen, with sulphurous acid), which, when inhaled, causes faintness and great excitement of the respiratory and vascular functions. The pool has no outflow; the water is a dirty chocolate colour, hepatic, feebly saline, and has a persistent acid reaction and offensive odour. Bathing in the spring itself is to be deprecated. Analysis (in grains per gallon): Sulphate of soda, 44.54 gr.; chloride of potassium, 1.67 gr.; chloride of sodium, 12.04 gr.; chloride of calcium, 5.22 gr.; chloride of magnesium, 1.28 gr.; chloride of aluminium, 0.62 gr.; silica, 9.22 gr.; hydrochloric acid, 5.92 gr.: total, 80.51 gr. in one gallon. Sulphuretted hydrogen, 4.42 gr. Temperature: 109° Fahr. to 115° Fahr.

5. *The Painkiller Bath*, situated at Te Kauwhanga, resembles the above water (No. 4), but is a little more saline and hepatic; it is one of the most valuable sulphurous springs in the reserve. The water has a distinct acid reaction, an offensive odour, and deposits a brownish sediment on being boiled. This spring has great curative properties, and two baths with sheltered dressing-accommodation have been built in connection with it. This spring is now so rarely used that the accommodation has been allowed to fall into decay. It underwent some modification in its composition at the time of the eruption, twelve years ago. Analysis: Chloride of sodium, 46.42 gr.; chloride of potassium, 1.71 gr.; chloride of calcium, 2.66 gr.; chloride of magnesium, 1.47 gr.; chloride of iron and aluminium, 4.22 gr.; sulphate of soda, 29.14 gr.; hydrochloric acid, 6.84 gr.; silica, 18.02 gr.: total, 110.48 gr. in one gallon. Sulphuretted hydrogen, 4.84 gr. Temperature: 204° Fahr.

6. *The Coffee-pot*, also situated at Te Kauwhanga, a small mud spring, 10 ft. in diameter; the water is thick, brown, and muddy, covered with an oily slime, in fact, of a most uninviting appearance; it has a persistent acid reaction and an offensive odour; hepatic and feebly saline. Analysis: Silica, 13.86 gr.; sulphate of soda, 23.71 gr.; chloride of potassium, 0.77 gr.; chloride of aluminium, 1.46 gr.; chloride of calcium, 2.04 gr.; chloride of magnesium, 1.62 gr.; chloride of iron, 1.47 gr.; hydrochloric acid, 7.66 gr.; sulphuric acid, 7.60 gr.: total, 60.19 gr. in one gallon. Sulphuretted hydrogen, 3.19 gr. Temperature: 80° to 100° Fahr. Special indications of the last three baths (Nos. 4, 5, and 6): Chronic rheumatism and gout, chronic rheumatoid arthritis, cutaneous diseases.

7. *Hinemaru* ("*Stonewall Jackson*" or "*McHugh's Bath*"), situated in the Rotorua Sanatorium Reserve. The water is of a yellowish colour, of a saline character, with silicates; reaction, alkaline. Analysis: Chloride of sodium, 93.46 gr.; chloride of potassium, 4.69 gr.; chloride of lithium, traces; sulphate of soda, 2.76 gr.; mono-silicate of soda, 6.41 gr.; silicate of lime, 2.89 gr.; silicate of magnesia, 1.02 gr.; iron and aluminium oxides, 2.10 gr.;

silica, 8.29 gr.: total, 121.62 gr. in one gallon. Temperature: From 98° Fahr to 118° Fahr. Special indications: Cutaneous diseases, rheumatism; if filtered, suitable for internal administration in atonic dyspepsia and uratic diathesis (dose, one tumbler thrice daily between meals).

The above analyses were made in 1881 and 1882, and a re-analysis was made in 1893 by the Government Analyst, who reports as follows: "These results show that some changes have taken place in the constitution of several of these waters since their analysis in 1881 and 1882—that is, prior to the volcanic eruption of Tarawera. The 'Painkiller' Spring has evidently acquired quite a new character, being an alkaline in place of an acidic water. The Hinemaru Spring (McHugh's Bath) contains a little less chloride of sodium than formerly, and more silica, while Rachel's Spring contains a little less of the alkaline sulphate. These facts are interesting, but with the exception of the total change of character of the 'Painkiller' water, nothing has been elicited to show that any of them have changed so much as to seriously affect them for the medical purposes to which they have hitherto been applied." This should reassure those who may have been led astray by a report—diligently circulated by certain interested individuals—that our springs are weaker and less efficacious than formerly. The "Painkiller" Spring is gradually assuming its original character and composition. It is true that there is no spring in the district so erratic in its temperature and density as the Priest's Bath, but, fortunately, temperature and density are not its most important therapeutic factors. The analysis of 1893, as compared with that of 1881, shows that there has been a falling-off in certain of its negative ingredients, but the curative properties of the water are maintained by an actual increase in two, at least, of its more positive constituents—free hydrochloric acid, and sulphuretted hydrogen. No one has a better opportunity of judging of the physiological and curative effects of this water than I, who, for the last thirteen years, have had the advantage of daily observation; and my deliberately expressed opinion is that the water of the Priest's Bath is as powerful a skin stimulant, and as valuable a curative agent, as it was twelve years ago. It would be well if the last-four-mentioned springs were called *springs*, and not *baths*, as the latter term is apt to be misleading to visitors; indeed it would be well if a block plan of the Sanatorium Reserve were to be bound in with this publication, giving the name and position of each spring.

ANALYSES OF FIVE NEW SPRINGS.

The following are analyses of five new springs which have lately been brought into notice, owing to the overcrowding of the Priest's and Rachel Baths. No doubt they will shortly be brought under the control of the Government authorities, as part of the Sanatorium Reserve, and suitable bathing accommodation built. They are as follows:—

(1.) *Matuatonga*, or "Corlett's Bath."

	Grains per Gallon.
Chloride of sodium with a little potassium	66.44
" calcium	6.72
" magnesium	0.31
Sulphate of lime	10.32
Carbonate of lime	0.21
Alumina	Trace
Soda silicate with a little carbonate	29.27
	113.27
Sulphuretted hydrogen	2.21

This water is very similar to the Rachel Spring, and calculated to fulfil similar therapeutic indications. Being situated some thirty or forty yards from the new sulphur baths, and at an elevation of about 8 ft. above them, the water of this spring may be easily led into the baths. This would give us as complete an arrangement as is at present afforded by the Priest's and Rachel Baths; and, as regards showers and douches, the necessary power will be readily obtainable from the cold water main, which is within reasonable distance.

(2.) *Toko*, or "The Postmaster's Bath."

	Grains per Gallon.
Sulphate of soda	45.09
" potash	0.41
" lime	2.45
" magnesia	0.30
" alumina	1.34
Iron oxides	0.71
Sulphuric acid (free)	17.86
Hydrochloric acid (free)	7.40
Silica	10.11
	85.67
Sulphuretted hydrogen	5.69

This is a strongly acidic water, fulfilling all the therapeutic indications of the Priest's Spring.

This spring has died out since the excavations were made for the new sulphur baths.

(3.) *Waikupapapa*, or "The Saddler's Bath."

	Grains per Gallon.
Sulphate of soda	33.18
" potash	0.26
" lime	2.44
" magnesia	0.24
" alumina	0.32
Iron oxides	Trace
Sulphuric acid (free)	4.29
Hydrochloric acid (free)	7.49
Silica	8.23
	56.45
Sulphuretted hydrogen	3.61

This is an acidic water, similar to the foregoing, but less stimulating, and consequently more suitable for delicate skins.

(4.) *Ngaruapuia, or "The Gemini Bath."*

				Grains per Gallon.
Sulphate of soda	...	...	...	29.80
" potash	...	...	...	0.64
" lime	...	...	...	6.87
" magnesia	...	...	...	0.31
" alumina	...	...	...	...
Iron oxides	...	...	...	Trace
Sulphuric acid (free)	...	...	...	3.11
Hydrochloric acid (free)	...	...	...	6.76
Silica	...	...	...	12.01
				59.50
Sulphuretted hydrogen	...	...	...	Traces.

This is a valuable acidic water, less astringent and stimulating than the foregoing, from the fact of its containing less free acid and more silica, and is, in many cases of skin disease, a most desirable intermediate water between the soothing alkaline waters and the more powerful waters of the acid type.

(5.) *Waikirihou, or "The Vaux Spring," Supplying the New Sulphur Baths, commonly known as the "Postmaster."*

				Grains per Gallon.
Sulphate of soda	...	...	...	32.87
" potash	...	...	...	1.24
" lime	...	...	...	4.93
" magnesia	...	...	...	1.83
" alumina	...	...	...	33.22
Iron oxides	...	...	...	4.42
Sulphuric acid (free)	...	...	...	30.32
Hydrochloric acid (free)	...	...	...	6.14
Silica	...	...	...	17.61
				132.58
Sulphuretted hydrogen	...	...	...	3.02

This is the strongest acidic water in the district, and most valuable as a local application to rheumatic or injured joints, but, for immersion of the whole body, requiring the greatest care and caution. Its action is that of a modified mustard-plaster, producing a strong determination of blood to the surface, the redness remaining much longer than that caused by the Priest's Bath. The cause of this will be seen on comparing the amount of free acid in the two waters. It is not a water to be trifled with; and patients with weak hearts or delicate skins will do well to take advice before using it.

The latest discovery with regard to the therapeutic power of this water is, that it abolishes the craving for alcohol. If I had heard

this from one or two individuals only I might have disregarded it, but hearing it commented on almost daily, I have taken the trouble to look up the cases. Two of these were very aggravated examples of inebriety, whose acquaintance I first made in the Court-house, where I found myself under the painful necessity of fining each of them the usual 5s. and costs. They assure me that they find themselves new men since bathing in these sulphur baths, and have lost all taste and desire for liquor of every kind. Three other patients of mine, to whom I found it necessary to advise total abstinence, corroborate this testimony, stating that they have felt no craving for stimulants since using the baths. They are very enthusiastic in the matter, and think that an asylum for inebriates should be established here at once. No doubt the craving for alcohol is kept up by a congested state of the mucous membrane of the stomach, so that the *modus operandi* of these waters is not far to seek; the congestion is relieved by the powerful determination of blood to the skin. In like manner, hæmorrhoids are cured by our acid waters, from the relief afforded to a congested liver. We do not for a moment affirm that bathing in these waters will engender a distaste for alcoholic stimulants, but there is no doubt that the craving for drink is materially modified by such bathing, and any man sincerely desirous of abandoning the habit will find great assistance from the use of the baths. An institution combining the use of these waters with the *Hagey* system of treatment would be of great value. I have no doubt the Government would lease a piece of land in the vicinity for such a purpose.

THE WHAKAREWAREWA BATHS.

At Whakarewarewa, two miles from Rotorua, there are two springs which have a well-merited reputation.

1. *Turikore*, or the "*Spout Bath*."—This water is in great repute among the Maoris for the cure of cutaneous diseases, rheumatism, lumbago, sciatica, and kidney complaints. It is of a sulphurous character, and has a faintly-acid reaction, which changes to alkaline on boiling the water. Analysis: Silicate of soda, 16.32 gr.; silicate of lime, 1.61 gr.; silicate of magnesia, 1.14 gr.; silicate of iron, 0.39 gr.; sulphate of soda, 13.47 gr.; chloride of potassium, 1.24 gr.; chloride of sodium, 53.61 gr.; phosphate of alumina, traces: total, 87.78 gr. in one gallon. Temperature: 96° Fahr. to 120° Fahr. Special indications: Cutaneous diseases, lumbago, chronic rheumatism, local palsy of muscles.

2. *Koroteoteo*, or the "*Oil Bath*."—This water is alkaline and slightly caustic. Analysis: Mono-silicate of soda, 2.08 gr.; mono-silicate of lime, 3.16 gr.; mono-silicate of magnesia, 0.76 gr.; mono-silicate of iron, 0.85 gr.; sulphate of soda, 7.49 gr.; chloride of potassium, 1.46 gr.; chloride of sodium, 66.34 gr.; chloride of lithium, traces: total, 104.54 gr. in one gallon. Temperature, 212° Fahr. Special indications: Cutaneous diseases.

WOULD A MEDICAL GUIDE-BOOK TO THE THERMAL-SPRINGS OF ROTORUA BE OF ANY PRACTICAL VALUE?

This is an important question, since the general public would be almost unanimous in answering it in the affirmative, perhaps adding as a rider, "provided it contained full and explicit directions for self-treatment." The medical profession, on the other hand, would be equally unanimous on the negative side. If we could tabulate diseases, and attach to each its appropriate remedy or remedies, the science of medicine would be simplified indeed; but, unfortunately, this cannot be done. Every case requires to be dealt with on its own merits. One of the first lessons a medical student learns is, "Treat your patient first and his disease afterwards." An old Latin adage says, "*Quot homines, tot sententiæ*"—So many men, so many minds. It would be equally true to say, "*Quot homines, tot corpora*"—So many men, so many bodies—as no two are identical physically and mentally. When a man applies to a life assurance society for an insurance on his life, such society requires the fullest information as to his family and personal antecedents, his physique, the condition of his internal organs, his occupation and habits of life, before they feel competent to judge of the risk they run in accepting his proposal. This is precisely the information a physician requires before he feels competent to form a correct diagnosis or prognosis, or to decide what plan of treatment is most likely to prove successful; and yet there are thousands of people who believe in such books as "Every man his own Doctor" and "Every man his own Lawyer." It is a matter of everyday experience to find the nervous, excitable man, who reads medical books, imagining himself the victim of every ill to which flesh is heir; and, no doubt, the man who thirsts for cheap legal knowledge finds his litigious proclivities accentuated. The legitimate practitioners of the two professions are, in the end, the persons chiefly benefited by such works.

Perhaps nothing will better emphasize the foregoing remarks or prove more generally interesting than a short sketch of the position held by rheumatism in the medical mind of to-day. A recent writer on the subject remarks: "Rheumatism is a systemic disease, of which the articular lesions are the most frequent and conspicuous manifestations, but which implicates many other structures and tissues, assuming widely different forms in different cases." This is well seen in the great differences which rheumatism presents in childhood, adolescence, and old age. Again: "'Rheumatism' and 'rheumatic' are terms very loosely applied. If they refer to one definite set of phenomena, and depend on a single morbid process, the nature of such process cannot, as yet, be spoken of with any degree of certainty. A great variety of disorders are popularly styled 'rheumatic,' which have no real connection, either with each other or with the more typical forms of the disease. The word is a convenient designation for any ache or pain which does not readily fall under any other category." The frequency with which peripheral neuritis is spoken of as muscular rheumatism is a case in point.

Of the numerous theories in explanation of the pathology of rheumatism, the following are the chief: (1.) That the heart is the starting-point, and inflammation of its lining membrane (endocarditis) the principal event on which all other lesions depend. (2.) That it is due to some disturbance of the central nervous system, caused either by surface chill, or the action of a chemical or organized poison upon the great nerve centres. (3.) That it is caused by an excess of lactic acid which is supposed to play a part analogous to uric acid in gout. (4.) That it is an infective disease, due to the presence of certain micro-organisms in the system, or toxic matters generated by them. This theory is rapidly gaining ground, and is, perhaps, more generally accepted to-day than any other. The facts on which the assumption rests are these: that certain micro-organisms have been found in the blood and urine of patients suffering from acute articular rheumatism, and that their abundance or scarcity is determined by the stage, or degree of severity, of the attack; also, that it is the only hypothesis that will account for acute rheumatism appearing as an epidemic, as it does in some localities. "Not one of these theories," says Dr. Garrod, "can claim to be clearly established, and no one of them has met with universal acceptance. The problem of the pathology of rheumatism still remains unsolved."

CASES SUITABLE FOR TREATMENT.

The selection of cases suitable for treatment at Rotorua is a most important matter. I am aware that there is a strong tendency, both with physician and patient, to try anything as a *dernier ressort*. It is a serious matter, however, to put a patient to the trouble and expense, and possibly pain, of making a long and weary journey, to rob him of the comforts of home and the society of his friends, without at least some reasonable hope that his labour will not be thrown away.

The two most important questions to be answered before deciding to send a case to Rotorua are: (1) Has the patient sufficient strength to bear the journey? and (2) is the case one likely to benefit by the treatment? With regard to the first question, it must be remembered that the long thirty-four miles coaching journey over a bad road is a thing of the past. The railway now gives through communication with Auckland within a little over ten hours. Still, a ten hours' railway-journey will not be accomplished by an invalid without some fatigue, and possibly increase of pain; but, if there be sufficient vitality to render such inconvenience a matter of mere temporary concern only, it is no insurmountable barrier. Nor need the partial or even total loss of the patient's locomotive power prevent his coming. We have many instances on record of patients who on arrival required the aid of crutches, or had actually to be carried to the bath, and yet went away enjoying the full use of their limbs. In considering the second question, medical men will not need to be reminded that where profound organic structural change

exists very little benefit can be expected, so that considerable discrimination must be exercised in selecting cases of paralysis for treatment. Where nerve-elements are extensively destroyed hot water has no regenerating power that I am aware of. The same may be said of osteo-arthritis or chronic rheumatic arthritis, with structural change and great deformity of the joints. Such cases may improve in general health, gain weight, and lose pain, but there the improvement ends. Our treatment is contra-indicated in phthisis as long as active destructive change is going on in the lungs. Certain chronic *poitrinaires*, however, pay us periodical visits with advantage.

PARAPLEGIA CURED.

Primary functional paralysis, in which there is reason to believe that the nerve-centres have undergone no organic change—such paralysis, for example, as may be induced by depressing morbid influences, as malaria, influenza, sexual excesses, mental or physical fatigue, exposure to wet and cold, alcoholism, or hysteria—are likely to benefit by treatment at Rotorua.

Several cases in point are given in the New Zealand Year-book for 1893. Two illustrative cases will be sufficient to quote here.

H. C., a bushman, aged twenty-three, had become completely paralytic, presumably from exposure to wet and cold. He had been for many months dependent on a Charitable Aid Board, which sent him to Rotorua. For three weeks he was carried to his bath, at the end of which time he was able to stand alone. At the end of five weeks he could walk with two sticks, and ride on horse-back. In three months he was as well as he had ever been in his life.

The wife of a Native chief from the Napier district was brought here for treatment at the beginning of March, 1895. Two years before she was thrown from a buggy and suffered concussion of the spine, this resulted in complete paraplegia with paralysis of the sphincters. She was unable to stand; her general health was excellent, and there was very slight muscular atrophy. After six weeks' treatment—chiefly at the Whakarewarewa Springs—she was able to walk with the aid of two sticks, and fast regaining control of the bowel and bladder. I have little doubt she will make a perfect recovery.

GOUT, RHEUMATISM, AND SKIN DISEASES.

No more favourable field for the observation and study of these allied diseases could be wished for than that afforded by Rotorua, nor is there any place more bountifully favoured by Nature for their successful treatment. These diseases furnish fully 75 per cent. of the cases resorting to Rotorua for treatment. With regard to gout, several prominent physicians of the French school are of opinion that sulphur baths are distinctly injurious, and should be rigidly proscribed in gout. They affirm that the formation of uric acid is increased by them, and the solvent power of the blood for

that acid diminished. We are aware that certain medicines have the latter effect, notably, the mineral acids, and, perhaps, strychnia and arsenic; but during an experience of thirteen years we have never found that our sulphur baths have had other than a beneficial effect in the disease. Two remarkable examples of this may be interesting.

H. W., aged fifty, has been a martyr to gout for twenty years. During the past season he spent two months at Rotorua. His condition was so critical that his friends scarcely expected him to return home. He was extremely anæmic and debilitated, could not stand or even sit upright; the mind was enfeebled, his conversation inconsequent and childish; wept on the slightest emotional excitement. It was quite two weeks before he was strong enough to take the baths with safety; he then had one Priest bath daily, greatly to his advantage: his strength, appetite, and mental condition improved, he could stand and take a few faltering steps. After this he was able to take two Priest baths daily: the improvement continued, and on leaving he was able to walk with the help of a stick fairly well. The only medicine he took was salicine, with dialysed iron. Since his arrival home—now four months ago—his improved condition is maintained.

A. B., aged forty, a professor of music from South Australia, has been for some years a sufferer from gout. He has the usual deformity of finger-joints, with chalky concretions. Occasionally the immobility of the fingers has been so great that he has been unable to practise his profession. He has paid Rotorua an annual visit for some years past. A very few of our sulphur baths always set his fingers at liberty, and enabled him to continue his music-teaching. The result is that he has left South Australia and settled himself permanently in Auckland, in order to be within easy reach of Rotorua.

We cannot afford to ignore results like these in favour of any theoretical objection; so that I think we must continue to prescribe our sulphur baths in gout, the French medical dictum to the contrary notwithstanding.

In all forms of rheumatism and rheumatoid arthritis we have much success, especially where arthritic degeneration is not too pronounced. Hot acidic sulphur-baths at a temperature not exceeding 104° , or sulphur-vapour up to 115° , taken twice daily for a carefully regulated time, according to individual tolerance—which we find to vary greatly—forms our routine treatment. These waters redden the skin, and cause some tingling sensation for an hour or two. Occasionally some irritation of the skin occurs, which is readily allayed by a few warm alkaline showers or douches. In those numerous and well-known cases of chronic hip-rheumatism, often due to injury, we find nothing so efficacious as the hot douche. The beneficial result is due partly to the quality of the water, and largely to its mechanical action: fortunately, our arrangements are so complete that we are able to vary the temperature and percussive

power of the douche at will. We are able to quote several cases of cure even where a considerable amount of fibrous ankylosis has existed. If the rheumatic patient progresses favourably under the bath-treatment alone, neither medicines nor electricity are employed, but if after a few weeks his progress is not satisfactory we find galvano-faradism a valuable adjunct. Usually thirty cells are put into circuit with a faradic machine, and the double current applied in the labile manner to the parts affected for fifteen minutes daily. We find this answers better than either current alone. In cases of muscular atrophy faradism is resorted to from the commencement. Massage is also occasionally of use.

GREAT SUCCESS IN CASES OF SKIN-DISEASE.

Perhaps there is no class of diseases in which we meet with more uniform success than those affecting the skin. The solid and gaseous constituents of the waters are no doubt important; but I have more confidence in the influence of change, and all that it implies in its effect on both mind and body, combined with the prolonged maceration of the cuticle, and the constant exposure of the skin to air and light which frequent bathing entails. General eczema, which may have resisted every form of treatment for years, is usually cured in a period varying from six to thirteen weeks if the patient is willing to submit himself to rigorous medical discipline. The same may be said of psoriasis,—at least, as far as its disappearance for a longer or shorter period is concerned. It is rare indeed to see psoriasis completely eradicated. For ringworm and the impetiginous eczema of children the water of the Priest's Spring is a specific. In sycosis epilation is necessary, after which our alkaline waters complete the cure.

We have had great success during the past year in the treatment of skin diseases. Several cases of general eczema have been completely cured in the Sanatorium.

Pemphigus is one of the rarer forms of skin disease, and, in its severer manifestations, not infrequently proves fatal. It is characterised by an eruption of large vesicles—technically termed "bullæ"—which vary in size from that of a sixpence to a hen's egg. These vesicles are distended with serum, and require to be punctured and evacuated. M. J., a girl aged nineteen, came to the Rotorua Sanatorium suffering from this disease. Fortunately, it was not the graver form of the ailment, but a more benign manifestation well described by Kaposi (Hebra's successor in Vienna) as "*Pemphigus vulgaris benignus*." The irritation was severe, and interfered greatly with her rest at night; however, she had not taken more than six baths when all irritation ceased; at the end of a week the vesicating process ceased also; and her skin was simply marked with purplish-red patches corresponding in area with the bases of the bullæ: these faded to a pale-brown and then disappeared. In three weeks she was virtually well. I kept her a fortnight longer and then sent her home, which was close to the sea.

To my surprise, in less than a week, I received a letter from her father stating that the whole thing had reappeared and she was as bad as ever. We readmitted her to the Sanatorium, put her under the same treatment, and on this occasion the curative process went on even more rapidly than before. In three weeks she was again apparently well, but instead of sending her back to the sea, she was advised to go forty miles further inland, which she did. She has now been there three months, and writes to say that she remains perfectly well.

I could quote numerous instances in which sea-air has greatly aggravated skin affections attended with violent itching, particularly in stormy weather, when the atmosphere is laden with saline particles.

In these cases we do not pin our faith exclusively to the baths, to the exclusion of all internal medication. However in-operative such treatment may have been at home, we find that, in conjunction with the new environment, rest, change of air and scene, with the baths, such treatment is of the greatest use. Patients frequently decline to take medicine, saying that they have exhausted the Pharmacopœia, and have come to Rotorua to try the baths as a last resource, but have little faith in them. Such cases are discouraging. It is difficult to engraft an improved physical state on a hopeless mental condition.

During the past season three rare forms of skin disease have presented themselves at Rotorua for treatment. They are known respectively as Diffuse Fibroma Molluscum, Scleroderma, and Vitelligo. Of course, bath treatment is utterly useless in such cases.

NEURALGIA.

Neuralgias, as a rule, do remarkably well. Patients suffering from sciatica are a numerous class with us, most of them presenting a very chronic history. When the disease is not distinctly associated with the gouty or rheumatic diathesis, is not of long standing, and has been caused by exposure to cold, it is very quickly cured. A few baths relieve the pain, and there is rarely any stiffness or weakness remaining. Chronic cases are not so easily dealt with—they require great patience and perseverance on the part of both physician and patient. Our routine treatment consists of hot baths, sulphur-vapour, the douche, and galvanism. After six or eight weeks it often happens that nothing remains to remind the patient of his old enemy beyond some slight weakness or soreness of the limb, and I usually advise him to try a week's sea-bathing on his way home. In order to accomplish this he should arrive in Rotorua not earlier than September or later than February. We have had some good results in the treatment of cervico-brachial neuralgia. An interesting case is detailed in the Year-book of 1893.

A man about fifty years of age presented himself some time ago suffering from a spasmodic neuralgia of the facial nerve. Any movement of the jaws, as in eating, yawning, putting out the tongue,

and even sometimes in speaking, brought on a paroxysm, lasting, fortunately, only a few seconds, but evidently agonizing; in fact, his life was a burden to him. After four weeks' persistent bathing, with iron and arsenic internally (which no doubt he had taken before) he left cured.

A CASE OF SCIATICA.

A. B., a man forty-five years of age, was admitted to the Sanatorium a few months ago, suffering from severe sciatica. Prior to his arrival he had been unable to lie down for three weeks, slept in a chair when he could, or with his head on his arms at a table. In a few days he was able to lie down and rest fairly well, with the assistance of 15 grains of antikamnia at bed-time. He took the Priest and Postmaster baths alternately, and left us at the end of three weeks without a trace of his ailment remaining.

PERIPHERAL NEURITIS CURED.

The subject of this is, or rather was, Dr. King of Auckland. He is very glad, no doubt, to be able to speak of his ailment in the past tense. I have his permission to publish the following letter; indeed, he is most anxious that his case should receive the fullest publicity. The letter explains itself and needs little or no comment of mine:—

DEAR SIR,—

Auckland, 5th May, 1897.

I was sorry to have missed you while at Rotorua, although, to tell you the truth, I was solely on a health-seeking mission, little expecting to receive the benefit I did, and therefore not much inclined for company. My trouble was peripheral neuritis, caused perhaps by the diphtheric poison acting on a nervous system already exhausted by over-work and worry. Without going fully into details, I may say that I began to fail in January last, and had to leave my practice on the 16th of that month, almost unable to do anything for myself. Mrs. King and I went south to Dunedin, Wakatipu, Invercargill, Christchurch, and Hammer Springs, where, after ten days' bathing, I seemed to receive a little benefit from the use of baths at a temperature of 110° to 114°, but not less. I then returned to Auckland very little the better, after seven weeks, having to be helped in and out of the cab on Saturday, 6th March. On the following Monday I left for Rotorua, where I took chiefly hot Rachel and Postmaster baths, with a Priest bath occasionally, but this I could not get hot enough. The Postmaster I took up to 111° and could almost feel it do me good. The Rachel I took up to 118°, and I attribute my recovery mainly to that. I cannot speak in too great praise of Rotorua, and I think such a place ought to be the sanatorium of the world. Of all the baths I took, I certainly like the Postmaster best. I shall be perfectly willing at any time to bear out all I have said. I will gladly give you my assistance for a few days at any time should you be needing a change. I intend to put my case before the Medical Association, and shall endeavour to publish it in the *Medical Journal*, so that you will hear further on the matter. My last word is: I thank God, from my heart, for Rotorua.

Thanking you for this opportunity of saying a word, believe me

Yours very faithfully,

T. W. KING.

This evidence, coming from a medical man, is of double value, since it leaves no doubt as to the correctness of the diagnosis, or the efficacy of the treatment adopted. In the interest of those who may be inclined to take baths at the high temperature described by Dr. King, I think it right to state that that gentleman did not immerse his whole body in such baths, but only the affected limbs.

CURATIVE EFFECTS OF MINERAL WATERS.

To enumerate every ailment in which our thermal springs have proved useful would prolong this paper indefinitely. Suffice it to say that in many cases their healing power has been discovered accidentally. Many women bathing for rheumatism have found themselves cured of chronic metritis and leucorrhœa, and as a result of such cures have proved fruitful after years of sterility. Congestion of the liver, biliary catarrh, with jaundice and hæmorrhoids, have been cured by the acid sulphur waters, which also prove useful as a topical application in ozæna and ulcerated throat. This class of water also tends to reduce plethora and corpulency without prostration, insures healthy action of the skin, and relieves torpor of the bowels.

ULCERATED THROAT.

The mention of ulcerated throat reminds me of two most interesting cases which presented themselves recently from the island of New Caledonia. In this island, it appears, chronic laryngitis is common.

The first case was that of a French gentleman engaged in business, whose throat ailment was of long standing. He remained with us a few weeks, used the water of the Priest's Spring as a gargle, and as a wet compress to the throat at night, and bathed in the same water twice daily. He left perfectly cured.

The second case was a much more serious one. The patient was a French Roman Catholic priest. He attributed his ailment to excessive use of his voice in preaching, teaching, and singing. He had constant cough, his voice was hoarse and scarcely audible, and there was occasional slight hæmorrhage from the laryngeal ulcers. After pursuing for four weeks the treatment described in the foregoing case, he left very much improved, but by no means well. To my surprise, in a few weeks after his departure he wrote to our late Resident Engineer, Mr. Malfroy, stating that to his great delight he found himself perfectly cured, and that he could use his voice in preaching and singing as well as ever he did in his life.

PERMANENT BENEFITS REALISED.

During the past eight years my correspondence with patients proposing to come to Rotorua, and with those who have left after a longer or shorter experience of our bath treatment, has been considerable. No fact has struck me more forcibly than this: that patients who have left greatly benefited, but not cured, almost invariably write to say that, after being a short time at home, they realise the benefit they have derived, and, in most cases, they find themselves permanently cured.

It appears that, whatever it is that our patients take into their systems by absorption or inhalation, and whatever may be the influence of change of climate, scene, and occupation, of relaxation and rest, time is required for assimilation, and the true benefit is

only realised some time after their return to their former surroundings.

I am glad to find that this experience is not peculiar to New Zealand, but is quite common with those who frequent the spas of Europe.

BALNEOLOGICAL APPLIANCES STILL NECESSARY.

Although during the past year much has been done to perfect the bathing arrangements at Rotorua, several useful appliances are still wanting: (1) Moveable hose douches, so arranged as to control at will temperature, pressure, and volume; (2) hot-air baths; (3) a cold needle bath; and (4) the Tallerman-Sheffield apparatus for local hot-air treatment. This apparatus consists of a copper chamber, usually cylindrical, and made in various shapes and sizes, so that any limb, or part of a limb, can be treated separately. The air in the chamber is kept dry, and its temperature can be raised or lowered at will. The treatment is applied for a period of from fifty minutes to an hour, and is gradually raised from about 150° to 220°, or even 300°. The immediate effects are relief of pain and stiffness. After the treatment the whole body is briskly rubbed down and the limb massaged with oil. Dr. Sibley has found the treatment of great service in rheumatoid arthritis which has reached a stage in which other treatments are likely to be of but little avail. He has employed this treatment for two years, and knows of no unsatisfactory result following it, although many of the cases treated have been by no means promising. Many of the patients were old and debilitated people, and in some cases cardiac and other visceral complications were present. One of the most valuable effects is the sleep which usually follows the treatment, particularly in cases in which pain has precluded any rest for long periods.

MASSAGE.

That department of medicine which relates to the discovery and application of remedies to the cure of diseases being known as Therapeutics, it follows that we may appropriately speak of the application of thermo-mineral waters to the cure of diseases as balneo-therapeutics, of massage as masso-therapeutics, and of galvanism as galvano-therapeutics. Now, any one writing in this day on balneo-therapeutics could scarcely afford to ignore the subsidiary agencies of galvanism and massage. I say subsidiary advisedly; since both find their truest value and highest use as adjuncts to bath treatment, bathing diminishing the resistance of the skin to the galvanic current, and by its emollient influence greatly assisting the manipulations of the *masseur*. We hear a good deal now-a-days about massage; there is scarcely a spa in Europe where it is not practiced. Aix les Bains appears to be its headquarters. Some of those who desire to be considered professors of the art are too apt to represent it as a panacea for all human ills, and so mislead the unwary. It is desirable, therefore, that the general public should get some definite idea of its real

worth. The following is what a lecturer on therapeutics at the Westminster Hospital, and examiner in *Materia Medica* to the Royal College of Physicians of London, says about it: "By masso-therapeutics I mean the scientific aspect of the subject: massage, that is, simply as a therapeutic agent, and not massage as a means of earning a living, or as a modified form of hotel-keeping. It must be admitted that many people regard massage and all that appertains to it with a good deal of suspicion, and not without reason. The difficulty is, not that massage fails to receive the credit to which it is entitled, but that it is employed in a number of cases for which it is unsuited. No discrimination is exercised, but its use is advocated for all sorts of chronic ailments. This is a grave mistake, and greatly to be deplored. The work is too often carried on by people who know little or nothing about it, and have not mastered even its most elementary details. They regard it as a special system of treatment, whereas, in reality, it is only one of a number of therapeutic agents at the disposal of every physician. They practice without knowledge, and often do incalculable harm. It is not pleasant to hear of an aneurism or an ulcer in the stomach being ruptured by the efforts of a too zealous rubber; and such mishaps are not unfrequent. The so-called *masseur* or *masseuse*, who goes about the country armed with a 'certificate,' which is simply a receipt for money paid, is an abomination, and has been the means of bringing a legitimate mode of treatment into disrepute."

The *masseurs* who have hitherto visited Rotorua for a few months in the summer have not proved altogether satisfactory. They are birds of passage, here to-day and gone to-morrow. We have, however, a lady well versed in this business, who for several years has been a constant resident in Rotorua. She is highly spoken of by those who have employed her, and her services are always available.

MAGNITUDE OF RESOURCES.

There are two questions which are perpetually propounded by visitors to Rotorua. The first is usually put in this way: "How is it that the Government of New Zealand does not advertise these springs? Little or nothing is known of them in Australia, or America, or England [or wherever the questioner happens to hail from]. I should not have been here, but that I heard, quite casually, that a friend of mine had been cured here; and if I am cured I shall be able to send you dozens of patients." My usual reply is: "We believe that good medical work will advertise itself, and your remarks confirm the assertion. It is evident you believe in your own advertising power, and so do we. It will be quite time enough to spend money in advertising when we find that our bathing-accommodation is in excess of the demand made upon it; at present it is barely equal thereto. At the same time our resources are practically unlimited. We have one spring in Ohinemutu estimated to discharge not less than a million gallons daily, which means that it is capable of supplying 10,000 baths daily of 100 gallons each. This is at

present running to waste. At Whakarewarewa there is a spring almost, if not quite, its equal. Should the time ever come when these springs are not equal to the demand made upon them we have the Waiotapu Valley to fall back upon, which is surely destined in the future to be the centre of the Thermal-springs District of New Zealand. Immense as our resources are at Rotorua, they sink into insignificance when compared with those of the Waiotapu Valley."

COMPARISON OF THE ROTORUA SPRINGS WITH THOSE OF EUROPE.

The second question usually takes this form: "How do your springs compare with those of Europe?" This is a much larger and more interesting subject. The first fact that strikes the inquirer is this: that cold mineral spas, of high therapeutic value as internal remedies, are abundant in Europe, whereas they are rare in New Zealand. In the Rotorua district our mineral waters are all hot, and more suitable for bathing than for internal administration. It does not necessarily follow that because a water is hot it is unfit for internal use. The water of our Rachel Spring is an admirable dietetic-water for gouty and dyspeptic patients, used either hot or cold; and a spring has recently been discovered at the head of Lake Roto Ehu containing, in spite of its high temperature, a large amount of carbonic-acid gas, which holds in solution a good deal of carbonate of iron. After keeping a sample of this water securely bottled for about three weeks, I sent it to a chemical friend for examination. His report was as follows: "On opening the bottle of 'iron-water' from Roto Ehu I found a good deal of free carbonic-acid gas, the water effervescing briskly like ordinary soda-water; it contained what was equivalent to 172 cubic inches per gallon. Of course this estimate is not to be relied on, as it would only represent a part of the gas contained in the water direct from the spring. There is more iron than I thought would be in it. This most probably exists in the water as ferrous carbonate dissolved in the carbonic acid. It resembles the European water of Pymont, with this difference, that it contains more chlorine and silica. As far as I have gone I find the water to contain, in grains per gallon: Chlorine, 11.2; lime (CaO), 12.74; magnesia, 1.177; silica, 10.266; iron (FeO), 1.177—total solids per gallon, 36.560; carbonic acid, 172 cubic inches." This spring has an enormous outflow, and is destined to be of great value in the future both for external and internal use.

The next fact that strikes the inquirer is this: that the thermal springs of the Rotorua district contain a far smaller amount of dissolved salts than those of Europe. The difference amounts to 7 to 1 in favour of Europe. If we take the mean of the total solids in grains per gallon of the nine springs first enumerated, we find that they amount to 96.51 gr. only; whereas if we take any nine European springs at haphazard—say, Vichy, Ems, Baden Baden, Marienbad, Seidlitz, Wiesbaden, Saltzbrunnen, Kreuznach, and

Leuk—we find that their dissolved constituents amount to 708 gr. per gallon.

Fortunately, the therapeutic efficacy of a thermal spring is not to be measured by the quantity of fixed salts it may contain. It would be a fortunate thing, of course, if we could discover in our district a cold mineral spring like that of Hunyadi-Janos, in Hungary, of which a wineglassful is an efficient aperient; but we can scarcely expect this in a volcanic region like ours. The so-called “chemically-indifferent springs,” such as Gastein and Wildbad, in Germany, contain absolutely less mineral matter than our ordinary drinking water. Thus, the New River water contains $2\frac{1}{2}$ gr. of solid matter to the pint, the East London Company 3 gr., and that supplied by the Hampstead Company $4\frac{1}{2}$ gr. Yet these waters cause no apparent effect, whilst the springs of Wildbad, with $3\frac{1}{2}$ gr. of salt to the pint, and Gastein with 2 gr., are capable of producing therapeutic results mainly due perhaps to the temperature at which they are employed. The chemically-indifferent baths, especially the cooler ones, possess peculiarly sedative effects, not only allaying nervous irritation, but also diminishing vascular excitement, whilst the warmer springs of the same class, being more stimulant, are chiefly used in aggravated cases of chronic rheumatism and rheumatoid arthritis. One important fact has been definitely established by experiment,—whatever may be Nature’s secret in the preparation of these remedies, it can never be discovered by science or imitated by art. We must be content, therefore, with the empirical knowledge that certain mineral waters produce certain effects.

There are other salient points of difference between our springs and those of Europe. Our waters contain abundance of silica and silicates, and little or no lime, while those of Europe contain abundance of lime, and little or no silica or silicates. Our district appears to be one in which silica takes the place of lime, the latter being almost a chemical curiosity.

Another curious fact is that hepatic or sulphurous waters, characterized by the presence of sulphuretted hydrogen and free sulphuric acid, as in the case of the Priest’s Bath, are abundant here, but absolutely unknown in Europe. The one sole point of resemblance—common not only to Europe and New Zealand, but to all thermal springs in the world—is the prevalence of chloride of sodium (common salt) as a leading ingredient.

THE SURROUNDINGS OF ROTORUA.

The Rotorua district enjoys the patronage of three classes of visitors: the tourist, the invalid-tourist, and the invalid proper. The question of common interest to them all is, What have they to do, and what have they to see when they get there? The best thing we can do for the tourist is to provide him with a local guide-book, and then transfer him into the hands of a guide. The most delightful trip he can take in fine weather—say from December to March—is to join a party, and do the round of the lakes.

Crossing from the old township of Ohinemutu in a steam-launch, he will first visit the Island of Mokoia, in the centre of Lake Rotorua; thence to the beautiful cold spring of Hamarana, one of the most charming picnicing spots in the district; thence through the Ohau Creek into Lake Roto-iti; here he would do well to camp for the night, and spend the following day in exploring the cosy bays and inlets with which the lake abounds, and visiting the hot spring of Manapirua, and the waterfall and hot springs in the neighbourhood of Taheke.

Crossing over to the western shore of the lake, and landing at Tapuaeharuru, a short walk of a mile or two will bring him to Lake Roto-ehu. Crossing this in a canoe, he will find the hot iron-spring already alluded to, and may readily convince himself of the presence of iron in the water by attempting to make tea with it, or using it to dilute his brandy.

Another walk of a mile will disclose one of the loveliest lakes in the district, Lake Roto-ma. The general consensus of opinion is, that this lake is a vision of beauty, which every visitor lingers round as long as possible and leaves with regret. This trip shows the visitor the Paradise of the district: he will find the Inferno at Tikitere. When George Augustus Sala visited this spot some seven years ago, he called it at once "Hell's Gates." It is certainly a most weird and awe-inspiring place. The steam rising from its boiling pools and mud-geysers is a never-failing landmark seen from every point of the Rotorua basin. The hydro-thermal action is so powerful at this spot that the visitor feels the earth vibrating under his feet; and yet, in spite of these dismal horrors, invalids—ladies even—will spend weeks here in order to get the benefit of the healing springs, which are justly credited with many most remarkable cures. Tikitere is eleven miles from Rotorua, and the trip may be comfortably made in half a day.

The next point of interest for the tourist is the Wai-o-tapu Valley, distant from Rotorua some twenty miles. Leaving his hotel after an early breakfast, say at 7 a.m., the visitor may see the chief points of interest in the valley, and return in time for dinner at 6 p.m., but only to regret the inadequacy of a one-day's visit to fully inform himself of the wonderful resources of this remarkable district.

NEW ROAD-WORKS.

Excellent work has been done recently in the formation of new roads to the principal sights of interest. A good coach-road is now completed from Rotorua, through Tikitere, skirting the Lakes Roto-iti, Roto-ehu, to the head of Roto-ma. This is the most interesting and picturesque drive in the district. A good bridle-track has been formed to the summit of Ngongotaha Mountain, from which the finest panoramic view of the surrounding country is obtained. In the north, the Bay of Plenty may be seen with its numerous islands; to the south the snow-clad summits of the volcanic mountains in the Taupo district. A road also is well advanced from Rotorua,

through the Waiotapu Valley to Wairakei, and on to Taupo, which will shorten the distance between the latter place and Rotorua by ten miles, besides being a far more interesting and attractive route.

TARAWERA.

Perhaps there is no more enjoyable trip for the young and strong than the journey to Tarawera Mountain, the scene of the eruption on the 10th of June, 1886. A ride of ten miles on horseback brings the visitor to the buried village of Wairoa; thence a voyage by boat some nine miles, across Lake Tarawera, lands him at the foot of the mountain. The ascent will occupy an hour and a half, and having arrived at the summit, he cannot but feel well rewarded for his toil. No verbal description can possibly convey an adequate idea of the scene of devastation and desolation which this standpoint reveals.

The best advice we can give to the invalid tourist is to attend to business first and pleasure afterwards. If he really wishes to derive benefit from the hot springs, he must not bathe irregularly on the advice of Dick, Tom, and Harry; taking a long fatiguing journey one day, and possibly three hot baths the next, and then wondering how it is that he feels so limp and exhausted: this kind of thing will only disappoint him, and do no credit to the springs. He may very well spend the first three weeks of his visit in bathing systematically, filling up his intervals of leisure by visiting places of interest near his hotel or boarding-house—and there are many, though usually neglected because they are so easy of access.

THE ROTORUA BASIN AND ITS SURROUNDINGS.

Not one in twenty of the visitors staying at the Lake House Hotel takes the nearest route across the Pukeroa Recreation Reserve to the Government baths; and yet from this spot a most magnificent panoramic view of the whole Rotorua basin, 80,000 acres in extent, may be obtained. Standing on the highest point, and looking towards the north, the visitor sees spread out before him the tranquil beauty of Lake Rotorua—20,000 acres of water, with the lofty volcanic island of Mokoia in its centre. The lights and shadows on the surrounding hills, the cloud scenery reflected in the water, the white cliffs to the north and north-east gleaming in the sunlight, the steam column rising from Tikitere, the bluff of Wahanga—the most northerly point of the Tarawera Range—just peering above the intervening hills, and in the foreground the Maori village and the English Church on a promontory jutting into the lake, form a picture which would certainly delight the artist, who usually sees when he looks, if not the tourist, who too often looks without seeing. Turning to the south and south-west, I know of no prospect more lovely on a calm summer's evening at sunset. The steam columns of Whakarewarewa are thrown into relief by the dark background of hills, and through the Hemo Gorge a glimpse is caught of the deep blue Paeroa Ranges in the extreme distance. In the

west is the bold bluff of Paparata, with its sky-line clothed with forest, through which the setting sun throws a flood of crimson light, making it look like a veritable bush on fire. North of west is the Ngongotaha Mountain, rising 1,600 ft. above the level of the lake, from the summit of which may be seen on a clear day the Bay of Plenty, with its numerous islands, and inland the snow-capped mountains of Ruapehu and Tongariro.

WHAKAREWAREWA.

At Whakarewarewa, only two miles from Rotorua, the visitor will find an epitome of all that the neighbourhood contains; hotel and bathing-accommodation, geysers, hot springs, boiling pools, mud volcanoes, hot waterfalls, and siliceous terrace formation. It will interest the visitor to know that in our Thermal-springs District exist the only geysers in that British Empire on which the sun is said never to set. Geysers are found in the Yellowstone Park, in Iceland, and in Thibet. Of the latter we know very little; but geologists tell us that, of the geysers of the world, those of the States of Wyoming and Idaho are the oldest, those in New Zealand the next in age, and, strange to say, those of Iceland, with which most of us were first acquainted, the youngest.

It will be seen, therefore, that the invalid tourist has plenty to interest him close at home, without interfering in any way with a profitable use of the numerous hot springs at his disposal.

ACCOMMODATION.

The opening of the Auckland-Rotorua Railway, which took place in December 1894, found Rotorua totally unprepared for the greatly increased traffic. From December until the end of March the hotels and boarding-houses were filled to overflowing, and visitors had to be lodged in tents. A list of the hotels and boarding-houses now open, with the number they are able to accommodate respectively, may be interesting. Two new boarding-houses have been opened during the past year, *The Pines* and the *Blue-bath Coffee Palace*.

HOTELS.

The Grand	70
The Geyser	50
The Palace	40
Lake House	60

BOARDING-HOUSES.

Bathgate House	85
The Langham	20
Tarawera House	20
Lake View	20
Rotorua House... ..	23
Mokoia View	20
The Pines	25
The Blue-bath Coffee Palace	20
Total	452

The tariffs vary from 25s. weekly. It is difficult to get an accurate estimate of the number of visitors for the past year. The hotel returns are very unreliable, as visitors move from one house to another, and so get counted twice over in many cases; but the fact remains that the amount of our bath fees for December, January, February, and March last was very much greater than for the corresponding months of any previous season, showing that our invalids at least have increased accordingly. The returns of baths taken show 46,688 for the year ended 31st March, 1898, against 33,158 for the year ended March, 1897.

ROUTES FROM AUSTRALIAN COLONIES.

The most direct route for visitors from the Australian Colonies is from Sydney to Auckland, and thence by rail to Rotorua. Those who may desire to see something more of the country may take steamer from Melbourne to the Bluff, and from thence on to Wellington, continuing the journey overland to Rotorua—a four days' trip, most enjoyable in fine weather. Patients should be recommended to bring plain, warm clothing, and substantial boots and shoes. Rotorua is essentially a convenient place for the wearing-out of old clothes. Frills and furbelows, jewellery and valuable watches, had better be left at home, as they are not improved by the sulphurous vapours arising from the springs. The watch *par excellence* for Rotorua is the nickel-plated "Waterbury."

HANMER THERMAL SPRINGS.

[From a paper by R. BELL, with analysis of waters (HECTOR) and directions or use (Dr. LITTLE).]

AMONG the many pleasure and health resorts in the Middle Island of New Zealand the Hanmer Thermal Springs District is justly very popular. As a health-recruiting ground, pure and simple, it undoubtedly holds the first place. There are various reasons for this preference for Hanmer. It is situated beyond the Leslie Hills in the Nelson Province, nearly a hundred miles from the hurry and bustle of a large city, and twenty-four miles from a railway-station. The healing natural waters are, of course, the great attraction. Their fame has gone abroad, and year by year brings an ever-increasing number of visitors. The climate must also be credited with its fair share of the attractiveness of the district. Although situated in latitude 42° 30' S., the heat, even in midsummer, is not oppressive. The height of the springs above the sea-level, 1,220 ft., and the distance from the coast, thirty-two miles, insures a dry heat during the day, with cool mornings and evenings. The air is bracing and salubrious, and allows feats of walking and hill-climbing to be performed with less fatigue than on the lower levels and in the more humid atmosphere near the coast.

Besides attracting the physically weak and the mere seeker after pleasure, Hanmer is yearly growing in favour with the fagged brain-worker, the nerve-worn man of affairs, and the mechanic who "needs a spell." To them Hanmer is a veritable Elysium, where business is not thought of. The world with its distracting cares and life-shortening ways is shut out.

JOURNEY TO HANMER.

To get to Hanmer the train is taken from Christchurch to Culverden, the northern terminus at present of the Hurunui-Bluff railway system, a distance of sixty-nine miles. Leaving Christchurch at 7.35 a.m., Culverden is reached at 12.10 p.m. The railway runs through some of the most fertile country in the Middle Island. Along the route are the Townships of Kaiapoi, Rangiora, Amberley, and Waikari.

Culverden is the centre of the fine pastoral country which extends to the neighbourhood of Blenheim. At its yards the largest sheep sale in New Zealand took place in March of 1898, when 250,000 sheep were brought under the hammer. Having lunched here, the passenger transfers himself and baggage to the coach, and the remaining portion of the journey is performed in three hours and a half. The coach route runs through the picturesque valley of the Waiau. The road winds in and out among the hills until crossing the river by a fine iron bridge the plains are unexpectedly reached. This level plateau, which stands at an altitude of 1,220 ft., is about ten miles long by four miles broad, and is surrounded on all sides by mountains, some of which rise over 5,000 ft. high. About the middle of the plains are the hot springs. These are of an alkaline and saline character, with a strong escape of sulphuretted hydrogen, and they possess undoubted curative properties for certain diseases.

ACCOMMODATION, ETC., AT THE SPRINGS.

The springs are situated in an area of 13 acres, enclosed by live fences and trees, and laid out in pleasant walks and lawns, bordered by flowers, all neatly kept. A croquet-lawn and bowling-green have also been laid down. The hotel-accommodation for visitors is ample. The Government has just built a Sanatorium capable of accommodating sixteen persons. The tariff is fixed at £1 for second-class visitors, and £2 and £2 2s. per week for first-class. So far the Sanatorium has been chiefly used by patients more or less affected by the diseases which the springs give relief to or cure. In a short time stabling-accommodation will be added, and those who heretofore have had of necessity to confine their rambles to the vicinity of the house and grounds, will get pleasant drives along the breezy plains.

Mr. Hood, of the Jollie's Pass Hotel, has also recently erected a commodious two-story house within a few chains of the bathing-grounds, with first-class appointments and every convenience for his customers. The Jollie's Pass Hotel (licensed) is situated two miles

and a half from the baths, and was originally built by the Government as an accommodation-house for travellers crossing the Pass, the great highway between Nelson and Canterbury. Mrs. Lamert's Temperance Hotel is situated at Jack's Pass, about one mile from the baths, and is well spoken of.

For the large and increasing number of visitors, the bathing-accommodation is rather limited. During the 1897-98 season fully fifteen hundred people came, taking twelve thousand baths; of these about eight thousand were taken in the private baths, and four thousand in the ladies' and gentlemen's baths.

There are two bath-houses, containing in all fourteen private baths, supplied with hot and cold mineral-water and a cold shower for each. The water is brought in pipes from the adjacent springs, and, to permit of the necessary fall, the baths are sunk beneath the flooring, and are entered by a short flight of steps. They are roomy, being 6 ft. by 2 ft., and are provided with hoists suspended from the ceiling to give the bather facility for turning about. The temperature ranges from 86° to 97° Fahr., and may be increased at will to 114°. Besides the private baths, there are a ladies' and a gentlemen's swimming-pool, both surrounded by high iron fences. The men's pool is 33 ft. by 28 ft. The all-round depth is 5 ft. In order to cope with the steadily increasing demand on the accommodation, a suite of dressing-rooms is to be built before the 1898-99 season. If the area of the bath could be extended without taking from the heat, and consequently the efficacy of the waters, it would be an immense boon to the users of this most popular pool. The temperature of the pool is 85° Fahr., and is so comfortable that, once in, the bather hardly cares to come out again. The charge for the private baths is 1s. each or 8s. for twelve, while for the pool 6d. a bath is the price. Situated in the grounds is a spring where visitors may not only assuage their thirst, but get relief for stomach, liver, and kidney troubles as well. The water is warm, and when it is remembered that it contains chloride of sodium and sulphurous acid, it will be easily understood that it does not taste like nectar. Despite the nausea which almost overwhelms them at every draught, many are only too pleased to testify to the beneficial effect of the water.

Sufferers from chest and liver complaints are also provided for. A pipe is driven into the ground through which the natural gases pass. These gases are inhaled by the patient, and this, like the drinking of the waters, is anything but a pleasant experience. Most people do it from a sense of benefit only, and many who would inhale the fumes cannot, they are so overpowering.

A comfortable reading-room has been provided in connection with the baths, on the tables of which may be found works descriptive of the scenery, resources, and history of New Zealand, also a few of the best monthlies, &c. A small gas-holder placed over one of the springs collects gas to light this room, and a service is soon to be laid on to the Sanatorium.

A post- and telegraph-office supplies facilities for communicating with the outside world. This may be an advantage or disadvantage, according to the nature of the communications.

MASSEUSE AVAILABLE.

In premises fitted up for her use, Miss Edith Cook, certificated masseuse, practises her art. She has great experience, and those who have been under her hands testify to her skill as a manipulator. In fact, it has come to be recognised that the bathing and the massage treatment go hand in hand towards affecting cures in cases of muscular ailments.

MEDICAL ATTENDANCE PROCURABLE.

Dr. Little, of Culverden, visits the springs once a week during the season, and his services are at the disposal of the visitors free of charge. If urgently required he can be communicated with by telephone at any moment.

TOURIST SEASON, CHARGES, ETC.

The tourist season extends from the 1st November to the 1st May, and during those months coaches from Culverden to Hanmer run daily up and down. During the rest of the year coaches only run on Tuesday and Saturday from Culverden, and from Hanmer on Monday and Thursday. The baths are open throughout the year; but the massage treatment can only be obtained during the summer months. The Government Sanatorium and the other hotels, of course, provide accommodation all the year round.

Apart from the cost of getting there—the railway issue through return first-class tickets from Christchurch for £1 10s., and from Dunedin, £4 2s. 6d.—Hanmer, unlike many other pleasure resorts, is not an expensive place to stay at. There are no “extras,” in the shape of boating and driving excursions, as in the cold lakes district, and no guide-fees, as in the alpine district. The only way one can make extra expense is to indulge in a superfluity of baths, and that is hardly likely. The cuticle would not stand it, even if the pocket could.

LIFE AT HANMER.

The daily life at Hanmer is very pleasant. This is the daily programme for visitors to the Jollie's Pass Hotel, and it will be conceded that it admits of no interval for yawning: Breakfast at 8, first coach to the baths at 10, bathing till 11.30, croquet or bowls till the coach leaves at 12, lunch at 1, afternoon-tea at 2.30, second coach to the baths at 3, bathing, bowling, or croqueting till the coach leaves at 5, dinner at 6, coffee at 8, drawing-room or smoke-room company conversation, music, cards, dancing, &c., till bed-time.

By way of varying the monotony, which a too close observance of the twice-a-day is apt to lead to, parties are formed for expeditions to the waterfalls up Dog Creek, and the bush at Woodbank Station. The more energetic of the gentlemen visitors can find scope enough

for their climbing proclivities in attempting such peaks as Mount Perceval (5,335 ft.) and Mount Captain (6,600 ft.). On a clear day, from either of these peaks, the Port Hills, Lake Ellesmere, and the long sweep of the Canterbury Plains to the ocean, can be seen. A favourite climb is up Jollie's Pass to the Saddle. The Pass is a road cut in the mountain-side, and the grade is pretty steep, rising 1,200 ft. in two miles and a half. The height of the Saddle above the sea-level is 2,500 ft., and a commanding view is obtained of the Leslie Range, the Waiau River, from the gorge where it enters the plains to its outlet down the valley, and the eye takes in at once the whole sweep of the plain within its amphitheatre of hills, resembling the bed of a lake, relieved here and there by a patch of manuka and a meandering stream.

Lovers of sport have ample opportunity for indulging their propensities. There is good fishing in the Clarence, the Waiau, the Hanmer, and their tributary streams; while for dog and gun there is such game as hares, rabbits, wild ducks, and swamp-hens. Rabbits, especially, are very plentiful, the plains being within their "sphere of influence," for the fence, barring their eastward march, runs along the spurs of the Leslie Hills.

On the whole, the Hanmer hot springs district is an ideal place for a holiday, containing as it does such advantages in its bracing climate and its healing natural waters, while its many social amenities help to make a stay there exceedingly pleasant.

THE HANMER SPRINGS CONSIDERED FROM A CHEMICAL AND THERAPEUTIC POINT OF VIEW.

The analysis of water taken from No. 1 Spring at Hanmer Plains, made at the Colonial Museum in 1891, gave these results:—

Chloride of sodium	...	...	62.09
Chloride of potassium	...	...	0.15
Chloride of lithium	...	...	Trace
Iodide of magnesium	...	...	Trace
Carbonate of lime	...	...	0.55
Carbonate of magnesia	...	...	1.77
Carbonate of iron	...	...	0.05
Sulphate of soda	...	...	7.48
Carbonate of soda	...	...	2.66
Phosphate of alumina	...	...	Trace
Silica	...	...	2.63

Total grains per gallon	...	77.38
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Gas—Sulphuretted hydrogen	...	2.19
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An analysis made ten years ago, prior to the earthquake which occurred in 1888, by Professor Bickerton, of Christchurch, is interesting from the fact that it includes an examination of the sediment and organic matter contained in the water. The sample

was taken from Spring No. 8 before it was incorporated with No. 1. It is as follows :—

Sediment—Silica and free sulphur	...	1.400
Nitrogen as free ammonia	...	0.092
" as albuminoid ammonia	...	0.048
" as nitric acid	...	0.047
Total nitrogen	...	0.187
Sulphuretted hydrogen, free	...	3.430
Sulphate of lime	...	9.940
" potash	...	1.960
" soda	...	0.400
Bicarbonate	...	7.770
Chloride	...	56.230
Bicarbonate of magnesia	...	0.640
Total fixed matter	...	76.940
Total grains per gallon		81.957

The total amounts of fixed salts in the two analyses correspond very closely. The sulphates and carbonates in either case are so small that the fact of their varying in the two analyses is a matter of no importance. The fact of the discovery of traces of iodine and lithium in the recent analysis is interesting.

DIRECTIONS FOR USING THE BATHS AT HANMER SANATORIUM.

[By CHARLES T. W. LITTLE, M.B., Ch.B., Visiting Medical Officer.]

The temperature of the Hanmer Baths can be regulated from cold up to 114° Fahr. Patients are cautioned against using the baths at first at too high a temperature, and against remaining too long in them. The caretaker in charge will be glad to give information on this point. A cold shower is provided with each bath. Invalids and those unaccustomed to the shower must use it with caution. After leaving the bath, patients should cool gradually, and be careful to avoid exposure to cold.

The water of the springs is laxative and diuretic, and may at first nauseate. It should be drunk in moderation, not more than one or two glasses daily for a commencement.

During their stay at Hanmer, visitors are recommended to freely take exercise in proportion to their strength. The Sanatorium affords facilities for this. The walk from the accommodation-houses to the springs will benefit those in fair health. Those suffering from feeble circulation, and those convalescent from acute diseases, must be specially careful with regard to the temperature of their bath and the duration of their bath, and should first ask information from the caretaker.

Patients suffering from bronchial catarrh will find inhalation of the steam beneficial, but must carefully avoid cold after leaving the bath. For local affections of a chronic rheumatic nature, &c.,

patients will find the hot douche useful, but must persist in its use. Massage both during and after the bath is here very useful.

Experience has shown that the benefit derived in skin affections varies much with individual cases. Dry and scaly skin affections generally benefit by prolonged immersion. Irritable and moist skin affections, on the other hand, benefit more by a short immersion. Should such affections be aggravated by the treatment, the baths should be discontinued for a time at least.

The benefit derived by gouty patients has been found to vary with the case. Patients suffering from derangements of the alimentary system (constipation, torpid liver, &c.); asthma, whooping-cough, nervous debility, and insomnia have testified to receiving benefit from a stay at Hanmer. Giddiness, bleeding from the nose, chilliness, nervous depression, increased irritability of the skin, are indications either that the baths do not suit, or that they have been too freely used and should be discontinued for a day or two at least.

Visitors in fair health will find a plunge in the swimming-pool very enjoyable. Visitors to the Sanatorium finding no appreciable benefit from the first few baths have often discontinued them altogether. Provided that the treatment is not aggravating the complaint, such action does not give the springs a fair trial. In chronic affections a long course of treatment is often required, and the immediate benefit is not seen.

MOUNT COOK, ITS GLACIERS, AND THE HERMITAGE.

[From the "Tourists' Guide," Canterbury District.]

FAIRLIE TO MOUNT COOK.

FAIRLIE is a small township, situated at the terminus of the Timaru Branch Railway. It is thirty-nine miles from Timaru, 996 ft. above sea-level, and is the point from which the coaches start for Mount Cook. It contains two hotels, the "Gladstone" and the "Fairlie," where tourists can be made comfortable; two well-kept stables, both now owned by Messrs. Kerr and Frayne, where good horses and vehicles can always be obtained; and several stores, &c. A medical man resides in the place. The climate is bracing and healthy.

Trains leave Timaru for Fairlie at 4 p.m. daily, except on Mondays, when they leave at 8 a.m. and 5.20 p.m. Trains leave Fairlie for Timaru daily at 8 a.m., with an extra one at 2.35 p.m. on Mondays.

The Mount Cook coaches leave the Gladstone Hotel at 8 a.m. on Tuesdays and Fridays, returning on Wednesdays and Saturdays.

The distance by coach route from Fairlie to the Hermitage is about ninety-six miles, and the journey is done in two days. There is little to note on the road until the summit of Burke's Pass is reached, when a fine view may be had of the Mackenzie Plains,

extending for miles in every direction. The long drive over the plains is uninteresting, but that is forgotten once the beautiful Lake Tekapo comes in view, and the hotel at its southern shore is gained in time for lunch, twenty-six miles having been accomplished. Further on, at Simon's Pass, there is an extensive and unsurpassable panorama of mountains, plains, and lakes to be seen, and, as the road rises at Dover's Pass, Lake Pukaki and the Southern Alps are revealed. At Pukaki, fifty-six miles from Fairlie, there is an accommodation-house where the night is spent. Next day the coach proceeds along the western shores of Pukaki Lake, and on past the Glentanner and Birch Hill Sheep-stations, and around the Bluff at "Sebastopol," where the Hermitage comes in sight. Within an hour the second day's travel, forty miles, will have been completed. It is interesting to note that the first sight of Mount Cook on this journey is obtained from Balmoral Station at the Forks River, the peak being similar in shape to a surveyor's tent in mid-air.

Scale of charges at the Gladstone Hotel (proprietor, Gilmore): 6s. per night—tea, bed, breakfast; at Fairlie Hotel (proprietor, J. Sullivan): 6s. per night—tea, bed, breakfast. Coach-fare to Mount Cook (return), £3 10s.

Special coaches, single and double buggies, and saddle-horses by arrangement—generally about 10s. a day.

EVENTS OF INTEREST TO TOURISTS VISITING MOUNT COOK.

The existence of the Mackenzie Plain was first made known in a rather romantic manner to the runholders who had taken up and stocked the lower country. In 1855 intelligence was received by the Messrs. Rhodes that a thousand sheep had been driven off their run, near Timaru, by one Mackenzie, who was tracked by their agent through what is now known as the Mackenzie Pass, and captured by him in the very act of herding the sheep. Mackenzie, however, escaped, but was soon afterwards recaptured by Sergeant Seager, of the Police Force, and lodged in Lyttelton Gaol. He was sentenced to five years' hard labour, again escaped, was recaptured, and finally pardoned. It is said he went to Australia, but, unable to restrain his freebooting propensities, repeated his offences there, and was again imprisoned. The country thus discovered was soon taken up and stocked with sheep. It is very dry and treeless, and the rainfall is less than in any other part of Canterbury. In summer it is hot, and in winter intensely cold. It is, however, most healthy and invigorating. Early settlers say that before the grass had been burnt moa-bones were to be found in numbers lying on the surface of the ground.

The first to draw attention to the grandeur of the scenery of this part of New Zealand were Dr. Von Haast and Mr. G. P. Sealey, of Timaru. The latter gentleman in the early sixties took many excellent photographs of it, which are still exhibited in the Christchurch Museum.

In 1873, Governor Sir George Bowen, with a large party, visited Mount Cook, and camped in what is now called Governor's Bush, most of which is the property of Mr. Melville Gray, of Timaru. After Sir George Bowen's visit many parties followed his example, and Mount Cook gradually became more and more famous. In 1882, Mr. Green, accompanied by two Swiss guides, made his well-known attempt to ascend Mount Cook, and all but succeeded. In 1884, Mr. F. C. Huddleston formed a company, and built part of the present "Hermitage," which has since grown into a large and comfortable accommodation-house. In 1887, the first regular coaching-service was established.

Messrs. Mannerling and Dixon tried for many years to reach the top of Mount Cook, and, like Mr. Green, nearly succeeded; but to Mr. T. C. Fyfe, the present guide, belongs the honour of being the first to really vanquish the mountain, for on the 25th December, 1894, with Messrs. Graham and Clarke as companions, he made a complete ascent. Shortly after Fyfe had succeeded, Mr. Fitzgerald arrived from England, and brought with him Zurbriggen, the famous Swiss guide, with the avowed intention of scaling Mount Cook. As, however, Mr. Fyfe had forestalled him, and gained the honour of being first, he turned his attention to other large mountains, and ascended Mount Sefton (described by Zurbriggen as being one of the most difficult mountains he was ever on), Mount Tasman, and several others, and finally made a pass from the Hooker Glacier to the West Coast, over what is now called Fitzgerald Pass, and returned *via* the Fox and Tasman Glaciers. Although Fitzgerald did not try Mount Cook, Zurbriggen ascended it by an entirely new route.

MOUNT COOK.

Mount Cook (Aorangi) (12,349 ft.), the highest mountain in New Zealand, is surrounded by gigantic peaks and great glaciers, and is covered with perpetual ice and snow from an altitude of 7,000 ft. Situated near its base at the foot of the southern spur, and within twenty minutes' walk of the terminal face of the Mueller Glacier, is the "Hermitage" accommodation-house, the finest centre in New Zealand from which to make mountaineering expeditions. Here the ordinary tourist may see mountain scenery of much grandeur, or may visit the great Tasman Glacier, eighteen miles long, and varying from one to two miles in width; the Mueller Glacier, eight miles and a half, with an average width of three-quarters of a mile; the Hooker Glacier, seven miles and a half; and the Murchison, ten miles. He may see huge ice-falls and moraines, deep crevasses, rivers flowing from icy caverns or between walls of ice, avalanches, fields of snow, *seracs* or ice pinnacles—in fact, here is a virgin field equal in grandeur to Switzerland, and unsurpassed by anything on this side of the world. Space will not allow of adequate description of all that may be seen and done; it must suffice to say that there are numbers of peaks which have never been ascended, and remain for the enterprising mountaineer to conquer.

Apart from sight-seeing alone, the botanist will here find much to interest him: the flora in most places remains in its native state. Scrub and bush grow to an altitude of 4,000 ft., and vegetation ceases entirely at 6,500 ft. Most of the varieties of sub-alpine shrubs, plants, and ferns are well represented. This region affords the geologist a fine field for the study of glacial action, past and present. The marks left by ancient glaciers may be seen on every side, as he drives over the Mackenzie Plains; they are visible in the lakes and old moraines, in the rounded hills, and ice-carried rocks.

A continuous line of lateral moraine marks the range west of the Tasman River. It stretches from Sebastopol to Pukaki, but is at such an elevation that it cannot clearly be seen from the coach-road; a good view may, however, be obtained from Braemar.

The downs between Burnett's Mount Cook Station and Tekapo are worthy of attention. Originally deposited by a great glacier, they have been cut into or overflowed by smaller glaciers of more recent date, which have in their turn disappeared, and left in some cases smooth beds, miles in length, with more or less complete lateral moraines.

Near the "Hermitage" are good examples of ice-polished cliffs, grooved rocks, and moraines in all stages of formation.

Numerous moa-bones have been found all over the Mackenzie Plains, and as far up the Tasman Valley as Glentanner Station, and Maori stone axes at the head of Pukaki Lake.

THE "HERMITAGE."

The "Hermitage" is a well-built hotel, containing altogether between thirty and thirty-five rooms. The old portion has just been relined with wood, and the whole house much improved. All the rooms are comfortable: the dining-room is large and well ventilated, and the bath-rooms have a hot- and cold-water supply laid on. It is situated close to the lateral moraine of the Mueller Glacier, and is 2,506 ft. above sea-level. It is now owned by the New Zealand Government, and Mr. and Mrs. Ross have been placed in charge; so that visitors may depend on being made comfortable, and on having their wants cheerfully attended to. It has a small stable and good paddock-accommodation. A supply of horse-feed is always kept, and six rugs for covering horses. Horses, quiet and accustomed to the country, may be hired by visitors. The services of the well-known alpine-climber, Mr. T. C. Fyfe, have been secured, so that any one ambitious of doing a little mountaineering will find a good and competent guide, thoroughly acquainted with the district, ready to assist them.

The hotel charges are 10s. per diem; horses, 7s. 6d. per diem; guide, 10s. per diem for one tourist, 15s. for two, £1 1s. for three, and £1 5s. for any other number. Special trips with one tourist, £1 per day.

The best season for visiting the "Hermitage" is from the beginning of November to the end of April; for mountaineering expeditions,

from the middle of December to the end of March. In common with all mountainous districts, this is subject to severe storms. Still, on the whole, the climate is delightful, and the clearness and rarity of the air is most invigorating.

The Government have had tracks made to various points of interest ; have built a suspension bridge over the Hooker River, not far from the " Hermitage," on the track to the Hooker Glacier, and have also put a wire rope and cage over the river at the crossing of the road leading to the Ball Hut.

To see all there is to be seen would take at least a week, but tourists with a limited amount of time can arrange to visit any of the following places :—

1. The crest of the great moraine of the Mueller Glacier, *via* the track at the back of the hotel : This point is 2,878 ft. above sea-level, and not quite half a mile away. From it may be seen good views of part of the Mueller and Hooker Glaciers, and of Cook, Sefton, Stokes, and the mass of mountains enclosing the Hooker Valley.

2. The terminal face of the Mueller Glacier, to see the ice-cliffs, about three-quarters of a mile.

3. Across the Hooker Suspension Bridge to the Hooker Glacier, two miles and a half.

4. To Kea Point, from which the avalanches falling from Mount Sefton may be seen to advantage, a mile and a half, and from there across the moraine-covered ice of the Mueller to the foot of Mount Sefton : total distance, two miles and a quarter.

5. The most extensive view obtainable within a reasonable distance of the hotel is said to be had from the top of the Sealy Range. From this point the upper portion of the Mueller Glacier can be seen, marked by extremely regular medial moraines formed by the influx of the Metelille and Sladden Glaciers ; also parts of the Hooker and Tasman Glaciers, and many fine peaks and mountains. The last half-mile of the track is steep, for the spur is quite 5,000 ft. high ; but the view will well repay visitors for the exertion of climbing. Near the top is a small lake, at which a halt can be called and tea made.

6. Governor's Bush makes a nice picnic-ground, and Black Birch Creek, at the back of it, is worthy of a visit when a spell from more arduous trips is desired. The bush is chiefly birch, or, more properly, beech, but most of the sub-alpine pines and shrubs will be found in it. Distance, a mile and a half.

7. Tourists are recommended to visit the Ball Hut, on the Tasman Glacier, distant about twelve miles from the " Hermitage." A very fair horse-track has been made to this, so that visitors can ride the whole distance in about three hours. If an early start is made, much may be seen in one day ; but it is better to spend a night or two at the hut, and thus avoid the fatigue and hurry consequent on trying to do too much in one day. This hut is about 22 ft. by 12 ft., divided into two compartments, each containing four bunks. It is lined with Willesden roofing-paper, and is quite clean, and fairly

comfortable. A supply of bedding is kept in damp-proof boxes, also food- and cooking-utensils. It was built in 1891 by the Government, and was opened by Lord Onslow, at that time Governor of New Zealand. Many visitors have made use of it, including not a few ladies. It is situated in a hollow between the hill and the Tasman Glacier, a little south of the Ball Glacier, on the site of Mr. Green's fifth camp. This place was also used, as the base of their operations, by Dr. and Mrs. Lendenfeldt, Messrs. Mannering and Dixon, Zurbriegen, and many others. Ten minutes from the hut is sufficient to take you to the clear ice of the Tasman Glacier, after which it is comparatively easy to walk anywhere, for the weathered surface affords a secure footing, and is not fatiguing to walk upon. Visitors should go at least as far as the Hochstetter Ice-fall, the most magnificent in the Southern Alps, situated about two miles distant from the hut.

An extensive view of the Tasman Glacier (which is a little larger than any of the Swiss glaciers), and of the surrounding mountains, especially of De la Bêche, Elie de Beaumont, the Hochstetter Dome, and Malte Brun may be obtained by ascending a few hundred feet on the spur between the Ball Glacier and the hut.

8. With the object of giving tourists a better chance of seeing the Tasman Glacier, and of bringing the top of Hochstetter Dome within their reach, the Government is going to erect another hut similar to the one at the Ball Glacier, on the east side of the Tasman Glacier, near Mount Malte Brun. The materials for it are now at the terminal face of the Tasman Glacier, and will be carried forward in the spring, as soon as the winter snow has melted. The Hochstetter Dome, 9,258 ft. high, has already been climbed by many people. The first ascent was made by Dr. Lendenfeldt and his wife in 1883, and it has since been visited by other ladies. The ascent is an easy and safe one; only about two hundred and fifty steps need be cut in the ice, and once on the summit a grand view of the Southern Alps and of the Tasman Sea and the wooded spurs of the West Coast is beheld. To those unaccustomed to mountain climbing, the Hochstetter Dome offers an excellent opportunity of experiencing the pleasures found so fascinating by mountaineers without being subject to too much hardship.

9. The Murchison Glacier is just seven miles and a half from the Ball Hut. This makes an interesting trip, though visitors will have to camp out at least one night. However, as plenty of firewood is to be found in the Murchison Valley, even close up to the glaciers, with proper precautions, this may be done in a fairly comfortable manner.

10. Tourists fond of climbing should return to the "Hermitage" from the Ball Hut *via* the Ball Pass (altitude about 7,000 ft.) and Hooker Glacier. The total distance is only a little over nine miles. It is, however, rough, and ought not to be attempted without a guide. Two tourists made this pass in the season of 1896-97 by themselves. Both were inexperienced men, and one of

them, unaware of the danger, stepped on a steep ice-face on the Hooker side of the range, and was immediately precipitated with great velocity some 300 ft. down the glacier. He fortunately escaped with no worse injuries than a severe sprain and many very bad bruises, but had to remain out all night, while his friend went to the "Hermitage" for assistance. The rescuing-party found him pluckily crawling towards the hotel, and carried him in. With a guide there is no danger in making the pass.

The above are the principal and most accessible places tourists should visit; but there is plenty of scope for alpine work, and by consulting the guide visitors will find it is possible to arrange for any number of interesting expeditions, both on glaciers and mountains. One of these expeditions is to the head of the Mueller Glacier. It is rough and crevassed at the bend, but by keeping on the south side for a mile after leaving Kea Point this may be avoided. After that the ice is smooth and good to travel on.

TABLE of MAIL-SERVICE between FAIRLIE and PUKAKI and HERMITAGE (Contractors, Messrs. Kerr and Frayne) from 1st January, 1897, to 31st December, 1899.

Outwards.

—			Place.	Day.	Hour.
Leave	..	..	Fairlie ..	Tuesdays and Fridays ..	7.30 a.m.
Arrive	..	..	Burke's Pass	" ..	9.30 a.m.
Leave	..	..	"	" ..	9.45 a.m.
Arrive	..	..	Lake Tekapo	" ..	12 noon.
Leave	..	..	"	" ..	1 p.m.
Arrive	..	..	Lake Pukaki	" ..	6 p.m.

N.B.—Twice weekly, from 1st December to 30th April; and once weekly, on Tuesdays outwards and Wednesdays inwards, from 1st May to 30th November, Fairlie to Lake Pukaki; and an extra weekly service as far as Burke's Pass, on Fridays outwards and Saturdays inwards, from 1st May to 30th November.

Lake Pukaki and Hermitage.—Outwards.

Leave	..	..	Lake Pukaki	Wednesdays ..	7.30 a.m.
Arrive	..	..	Hermitage ..	" ..	4.30 p.m.

N.B.—From 1st December to 30th April.

Lake Pukaki and Fairlie.—Inwards.

Leave	..	..	Lake Pukaki	Wednesdays and Saturdays	7.30 a.m.
Arrive	..	..	Lake Tekapo	"	12.30 p.m.
Leave	..	..	"	"	1.30 p.m.
Arrive	..	..	Burke's Pass	"	3.30 p.m.
Leave	..	..	"	"	3.45 p.m.
Arrive	..	..	Fairlie ..	"	5.45 p.m.

[See note against outwards time-table.]

Lake Pukaki and Hermitage.—Inwards.

Leave	..	..	Hermitage ..	Fridays ..	7.30 a.m.
Arrive	..	..	Lake Pukaki	" ..	4.30 p.m.

N.B.—From 1st December to 30th April.

Round tickets, Dunedin to Mount Cook, £5 5s. first, £4 12s. 6d. second; round tickets, Christchurch to Mount Cook, £4 15s. first, £4 7s. 6d. second; available by coach from Kurow or Fairlie, returning by either route.

Coach-fare alone, Kurow to Pukaki, 17s. 6d.; Fairlie to Hermitage, £2 12s. 6d. return.

GLACIERS AT THE HEAD OF THE CLYDE AND HAVELOCK RIVERS.

To reach this country you go by rail to Mount Somers, a distance of seventy-eight miles from Christchurch, where there is a fair up-country hotel.

Leaving Mount Somers, you follow the Ashburton Gorge Road, skirting the Ashburton River the whole way, till you come to Hakatere Station, fifteen miles from Mount Somers, through open pastoral country by good driving-road. From Hakatere, 2,000 ft. above sea-level, there are two roads, one leading to Lake Heron and the Rakaia River, the other taking you to the Rangitata, and the latter is the one the tourist follows.

From Hakatere to the Potts River is a distance of eleven miles by good driving-road, through open tussock country, passing on the way two small lakes—Tripp and Howard—lying at an altitude of 2,193 ft. Before descending into the Potts River, a magnificent view of Mount Tyndal and Cloudy Peak, and the whole of the glacier region at the head of the Havelock and Clyde Rivers is to be had—peak above peak in bold majestic outlines, all glistening in snow and ice, a sight never to be forgotten.

At the Potts River there are branch roads, the main one crossing the Rangitata River and taking you to Mesopotamia Station, a distance of six miles, passing on the way the lonely grave of Dr. Sinclair, who was drowned in the Rangitata on the 26th March, 1861, while engaged with Von Haast in making a geological survey of the country. Mesopotamia was owned in 1861 by Mr. S. Butler, the author of "Erehwon."

To the west of Mesopotamia Homestead is Mount Sinclair, 7,022 ft., which affords an extensive and magnificent view of the valleys of the Rangitata and Ashburton, with a portion of the Canterbury Plains. Also from here the Southern Alps appear in all their sublime grandeur, the towering peak of Aorangi (Mount Cook) standing above them all. From the Potts, where you ford, there is a fair driving-track across the flats alongside the Rangitata River, till you come to Mr. Knight's homestead at the Jumped-up Downs, eight miles from the Potts River. Here the vehicles will have to be left, and the rest of the trip done on horseback, with pack-horses to carry the equipment.

Opposite this point the Rangitata River diverges into the Clyde and Havelock Rivers, and, commencing with the latter, you ford the Clyde, and wend your way up the river-bed, the scenery increasing in grandeur as you ascend, peak above peak appearing covered with snow and ice. The mountains on the south bank of the river are not very picturesque, while on the northern bank rise the precipitous flanks of Cloudy Peak.

Ten miles from the Jumped-up Downs you come to Findlay's Bush, 2,550 ft., a first-rate camping-ground, and from which you can ascend the Forbes River and explore the glaciers at its source. It is rough walking up the Forbes, but you are fully recompensed by the wild grandeur of the scenery.

From Findlay's Bush you ascend the Havelock River for about four miles, to where two streams join the main one. This is as far as the horses can be taken. Here there is a good camping-spot among the totara bush, and visitors during December or January will find the *Ranunculus lyallii* and other alpine plants in all their pristine grandeur.

From this camp the almost unknown country around Mount Tyn-dall can be explored; and, as you ascend the river, huge mountains stand around you in all their stern majesty, with cascades descending their sides, in many places a sheer drop of some hundreds of feet. The Jumped-up Downs, 1,900 ft., is a good spot from which to climb the Cloudy Peak Range, and to scale Cloudy Peak (7,870 ft.)

From the Jumped-up Downs to McRae's old homestead is four miles and a half, all river-bed travelling; and from here you can explore the Lawrence River. From the old homestead to the flat at the last camp is five miles and a half, all up the river-bed.

The Frances, the Agnes, and the Shanks Glaciers, and the whole of the country around Mount Goethe can be explored from here. A short distance above the camp the Shanks River joins the Clyde, the view up the first-named being very fine, as it flows through an immense fissure. The Frances Glacier is the largest, being about 1,300 ft. wide. The extremity is a straight wall 150 ft. high, in the creek of which there is an ice-vault, from which the stream rushes.

It is very difficult to describe the wild beauty of the scenery, or to give an idea of the varied shapes of the mountains around you. Needles are seldom seen, but high pyramidal peaks frequently rise above the general line of the chain, and some of them are so precipitous that for several thousand feet no snow can cling to their walls, which stand above the dazzling garment at their feet in stern grandeur.

December to the end of April is the best time for this excursion.

The equipment of the party depends upon the number, and the amount they can spend. In any case good strong vehicles, riding- and pack-horses, tents, cooking- and eating-utensils, bedding and provisions are essential. Mutton may be purchased from the stations *en route*.

Distances.—Mount Somers to Hakatere (by vehicle), fifteen miles; Hakatere to Jumped-up Downs (by vehicle), nineteen miles; Jumped-up Downs to last camp on Havelock (by horse), fourteen miles; Jumped-up Downs to last camp on Clyde (by horse), ten miles.

HAKATERE STATION TO LAKE HERON.

A mile and a quarter after leaving Hakatere Station, before referred to, you ford the Ashburton River, and a mile and three-quarters further on you pass the Maori lakes, and come to Clent Hills Station, five miles from Hakatere. Here the road branches, one going to Dunbar's Station, at the head of Lake Heron, and the other going to Musgrave's Station, at the foot of the lake, and is the one you take.

After leaving Clent Hills there is nothing much of note, except a picturesque view of the Cameron and Ashburton Glaciers, and Mount Arrowsmith, until you arrive at Musgrave's Station, which is fifteen miles from Hakatere by a good driving-road, passing through pastoral country.

Lake Heron, which is 2,276 ft. above sea-level, and of an area of 1,600 acres, is teeming with brown trout, which grow to a great size, 20 lb. being common. They will not rise to any bait, being only procurable by netting, or spearing by torchlight in the shallows of the lake. Musgrave's station is the turning-off point to visit the glaciers at the heads of the Cameron and Ashburton Rivers, and it is also where the vehicles will have to be left.

Half a mile from the station you ford the Lake Stream, and cross the shingle-fans at the mouth of the Cameron, and thence up that river, the travelling being good until you get to where the half branches off to the Ashburton River. This is six miles and a half from Lake Heron, and from here you follow the Cameron up for some four miles till you come to a grassy island between two streams, where you camp and leave the horses.

From here you can work the Cameron, the Douglas, and Ashburton Glaciers, and ascend Mount Arrowsmith, 9,171 ft. in altitude. These glaciers, although of no great size, are exceedingly beautiful, especially the Ashburton one, the ice of which is quite pure, and is broken half a mile above its termination into numerous fine *seracs*, forming splendid ice cascades.

Another way to reach the Ashburton Glacier is by following the track that leaves the Cameron six miles and a half from Lake Heron, and goes through a pass, 4,200 ft., on the Wild Man's Hill, and descends into the Ashburton River, two miles from where you leave the Cameron. Going up the Ashburton you come to a hut, two miles from where you first strike the river, and three miles further on is the glacier.

Distances.—Hakatere Station to Musgrave's Station (by vehicle), fifteen miles; Musgrave's Station to head of Cameron (by horses), eleven miles.

LAKE HERON TO THE HEAD OF THE RAKAIA RIVER.

To reach the Rakaia from Lake Heron you follow down the valley of the Lake Stream, and seven miles and a half after leaving the lake you arrive at a hut, 2,110 ft., situated on the banks of a

small stream, among some tawhai bush. A mile and a half further on is where the Lake Stream joins the Rakaia, the track being down the river-bed. This junction is 1,980 ft. above sea-level. From here to the mouth of the Louper River is ten miles, and there being no definite track, you have to pick the best route you can up the Rakaia River-bed. The northern banks of the river are steep, and covered for some distance up with totara and toatoa bush, while here and there on the southern bank are clumps of kowhai and totara. Just before you reach the Louper there is a good camping-ground on the northern bank of the Rakaia, where the horses may be left.

The mouth of the Louper is 2,958 ft. above sea-level, and by following the track up the stream, going four miles, you reach Whitcombe's Pass, 4,212 ft. From the Pass you can pursue your journey down the western side, and eventually reach Hokitika.

From the camp on the Rakaia you can explore the whole of the glaciers at the head of that river. Two miles and a half past the mouth of the Louper, and opposite the terminal face of the Ramsay Glacier, you come to Mein's Knob, 4,437 ft. above sea-level, and from it a view magnificent in the extreme can be had. "To the west is the Lyell Glacier, which is of considerable dimensions. The lower portion of this glacier is covered with *débris*, but higher up it shows its structure in many *seracs*, exhibiting peculiar green and bluish hues. Round the glacier rise peak upon peak, sending down their ice-streams. Among them the rocky pyramid of Mount Tyndall is conspicuous, enveloped in vast snow-fields. Towards the north, Mount Kinkel, a high dome-shaped mountain, covered with snow and ice, lies between two glaciers; Mount Ramsay, another majestic mountain, lies between Mount Kinkel and Mount Whitcombe. It is impossible to convey in words an adequate idea of this rugged mountain and its eastern neighbour, Mount Whitcombe: turrets, pinnacles, and minarets rise all along the serrated edges, and the rocky face is in most instances so steep that no snow can lie upon it, altogether forming a panorama which, for diversity of scenery and its wild alpine character, is second to none in New Zealand."

Distances.—Lake Heron to junction of Lake Stream with Rakaia (by horse), nine miles; junction of Lake Stream and Rakaia to Louper Stream (by horse), ten miles; mouth of Louper to Whitcombe's Pass (on foot), four miles.

LAKE LYNDON TO BROWNING'S PASS.

Forty-four miles from Christchurch by rail and you arrive at Springfield, the starting-point of the tour to Browning's Pass. Thirteen miles from Springfield by vehicle you come to Lake Lyndon, which is 2,730 ft. above sea-level, of an area of about 290 acres, two miles and a half long, and from 3 to 25 chains in width. In severe winters it is frozen over, and affords a good skating-ground.

You leave the West Coast Road at Lake Lyndon, and skirt the lake for two miles, reaching Lake Coleridge, seven miles further on, by a good driving-road, passing through open pastoral country. Here the road branches, one going down the Rakai Gorge, the other leading to Glenthorne Station, on the Harper River. Close to the junction of the roads is Lake Coleridge Station, charmingly situated on the shores of the lake: the view from here being very pretty, Lake Coleridge lying like a deep blue mirror between the curiously shaped ranges on either side. The lake is at an altitude of 1,667 ft., of an area of 8,900 acres, and is eleven miles long by from half a mile to two miles in width. This lake, like Lake Heron, is of a very great depth, and is full of brown trout. Half-way down the lake is a picturesque island of about 3 acres in extent, covered with tawhai and rata.

Leaving Lake Coleridge Homestead, the road runs parallel to the lake, but shut out from it nearly all the way by a range of hills. Two miles and a quarter from the start you pass a small lake—Georgina—and three miles and three-quarters further on you cross the Ryton River. A mile and a quarter up this stream is the Goldenay Waterfall, prettily situated in some bush. A mile and a half after leaving the Ryton, you come to Lake Evelyn, and follow its shores for about half a mile. From here there is a track leading to two small lakes—Ida and Catherine—distant respectively two miles and a quarter and two miles and a half. Of the two, Lake Ida (2,304 ft.) is the most picturesque, as it lies with its wooded shores between Mount Ida (5,561 ft.) and Little Mount Ida (3,451 ft.). Half a mile from Lake Evelyn you come to Lake Selfe (1,962 ft.), a charming spot, with some groves of tawhai bush and picturesque rocks.

The road follows the shores of this lake for a mile and a half, and two miles and a quarter further on you reach the Harper River. From here to Glenthorne Woolshed, on the north bank, is a mile and a quarter, a mile of which is river-bed. This point is thirty-five miles distant from Springfield, by a fair driving-road. You will have to leave the vehicles here, and do the rest of the journey on horseback.

From the woolshed the track leads you down the Harper River for a mile and a quarter, and thence up the east bank of the Wilberforce River, to Fang Creek, another seven miles. Here you cross to the west bank, half a mile, and care should be taken in fording the river if it is in flood. Following the Wilberforce up for another two miles and a quarter you come to Moa Flat (2,060 ft.), crossing Moa Creek on the way. Moa Flat is eleven miles from the Glenthorne Woolshed, and a capital spot to camp at. Tawhai bush covers the mountain sides and descends to the tussocky flats, giving them a park-like appearance; and here in the early morn you can hear the Makomako (bell-bird) in all his glory.

Four miles up Moa Creek is the old camp of the Moa Creek Gold-mining Company; and by following the track up North Creek

and thence up the hill you will come to the old workings. "About half a mile from the hut on Moa Flat there is a picturesque double waterfall descending from the Cascade Ranges.

From Moa Flat the route is along a tussocky flat for about two miles and three-quarters, and then you enter the river-bed, which you follow for a mile and a half, till you come to a flat between the Rivers Griffiths and Wilberforce. Crossing the Griffiths you arrive at a good camping-place among the toatoa bush, on a tussocky flat; and from here the Unknown, the Gibson, and the Griffiths Streams, which have their sources in small glaciers, can be explored. This also would be a suitable spot for wild-cattle hunting—a good sport, and the cattle are fairly numerous and very wild.

Three miles and a half from the confluence of the Griffiths with the Wilberforce you come to Gifford Creek, which comes from the glacier of the same name. Half a mile further on is a camping-place in some toatoa scrub. Three miles from this point you reach the old camp of the Christchurch Gold-mining Company, and here you have to leave the horses. This camp is 3,000 ft. above sea-level, and is where the Wilberforce divides into two branches, one going north-east to Harman's Pass, and the other north-west to Browning's Pass and the Hall Glacier.

Eleven years ago nearly all the country between this and Mount Harman was pegged off in quartz-mining claims, and some thousands of pounds was spent in prospecting; and although numerous leaders and blows, showing in some cases 2 oz. stone, were discovered, no defined reef could be located. The same formation, with outcrops of quartz, can be traced right through to the old working at North Creek. At the time the prospecting was going on, a dray-road was made from Glenthorne Woolshed to this camp, but, except on the flats, all trace of it is now gone.

From the camp you ascend a shingle slip for about 600 ft., and then come to a zigzag track on a rocky spur, which brings you to the summit of the pass, 4,752 ft. Lake Browning now lies before you, surrounded by hills mostly covered with a deep-green alpine turf. Over them rise majestically the rugged forms of Mount Harman and Twin Peaks, with their snow-fields and ice-masses glittering in the sun. On the steep slopes leading to the lake, a rich and varied flora grows, among which *Celmisia sessiflora*, *Raoulia grandiflora*, *Celmisia petiolata*, *Celmisia haastii*, *Senecio lyallii*, *Ranunculus lyallii*, and many others, are to be found.

Following the dividing-range along about a mile and a quarter, you reach the top of Mount Harman, 6,150 ft. above sea-level. Along the Southern Alps rise peak above peak, their rocky pinnacles towering in grand majesty above the snow and ice upon their flanks, while deep below you is the valley of the Wilberforce.

On the western side there are densely-wooded ranges, reaching to the sea, with the Rivers Arahura and Teremakau showing here and there. On a fine clear day the ocean appears to lie at your feet, and the bridge near the mouth of the Teremakau is plainly visible..

There is a foot-track from Browning's Pass, by which you can reach Hokitika. The best time of the year for this trip is between December and the end of April. The equipment depends upon the number, and the amount they care to spend. In any case, good strong vehicles, riding- and pack-horses, tents, cooking- and eating-utensils, bedding, and provisions will be required. Mutton may be procured from the stations *en route*.

Distances.—Springfield to Lake Lyndon (by vehicle), thirteen miles; Lake Lyndon to Lake Coleridge (by vehicle), nine miles; Lake Coleridge to Glenshome (by vehicle), thirteen miles; Glenshome to Moa Flat (by horse), eleven miles; Moa Flat to Browning's Pass (by horse), eleven miles: total, fifty-seven miles.

A SCENIC WONDERLAND.

[BY MALCOLM ROSS.]

THE traveller desirous of seeing New Zealand scenery in all its varied grandeur and loveliness will, at no distant date, be able to commence his tour at the West Coast Sounds, work his way overland, *viâ* McKinnon's Pass, to Lakes Te Anau and Manapouri, proceed thence to Wakatipu and Wanaka, then on to Mount Cook and over one of the glacier passes to the West Coast, returning eastward *viâ* the Otira Gorge to Christchurch. A tour on these lines will, with the formation of good roads and tracks in some of the roughest parts, be easy of accomplishment, and embrace the principal scenic features of interest in the Middle Island. At present such a journey is impracticable, except in the case of mountaineers, or, at all events, good walkers; but the points mentioned may be all reached in different ways in comparative comfort.

WEST COAST SOUNDS.

Beginning in the South, we have the far-famed West Coast Sounds, no fewer than thirteen in number, all lying within a distance of 120 miles on the south-west coast of the Middle Island of New Zealand. The best way of visiting the Sounds is by the annual excursions, so well carried out each summer by the Union Steamship Company of New Zealand. Every season these excursions, which partake of the nature of a gigantic ten-day water-picnic, are patronised by hundreds of sight-seers from all parts of the civilised globe, and it is safe to say that no finer excursion can be enjoyed in any other part of the world. The steamer calls first at Preservation Inlet, thereafter proceeding northward through some of the most beautiful fiords to Milford Sound, the grandest of all. The mountains by which Milford Sound is surrounded are the highest on this coast, the glacier-crowned Pembroke Peak rising

almost it might be said from the water's edge to a height of 6,700 ft. One of the most noticeable among them is the remarkably shaped Mitre Peak, the end of a long ridge that runs back from the Sound, and attains in the Mitre its greatest height of 5,560 ft. The Lion, a massive mountain on the opposite side, from some points of view closely resembling a lion couchant, is likewise a striking feature of the Sound; and the Stirling Falls (500 ft. high) and the Bowen Falls (540 ft.) are sights worth coming a long way to see. The walls of the fiord go straight down to tremendous depths, and, except at the head, it is difficult to find an anchorage for ships. In one place, near the Stirling Fall, the soundings show a depth of 214 fathoms. The Rev. W. S. Green, a member of the English Alpine Club, who visited New Zealand some years ago, thus refers to his entry into Milford Sound:—

Vertical cliffs rose for thousands of feet on either hand, and we drove in before a blast so strong as almost to make steaming unnecessary. The surface of the sea would now and then be torn off in sheets, driven along in spindrift, and again all would be calm as glass. Waterfalls, resembling the Staubach, came down the cliffs from far above the clouds, and were blown away into spray while in mid-air by the fury of the storm. Wherever vegetation could get a footing on these immense precipices lovely tree-ferns and darker shrubs grew in profusion, all dripping with moisture, and running up the cliffs in long strips of verdure till lost to our view aloft in the torn white mists. The vivid green of the foliage was the feature of all this wondrous scene which struck me most. Two or three miles up the Sound we steamed close to an immense waterfall which, in one plunge of 300 ft., leaped into the Sound with a roar like thunder, drowning our voices and sending great gushes of spray over the steamer's deck. The face of another great cliff was so draped with numberless small falls that it seemed to be covered with a veil of silver gauze about 300 yards in width. While passing along here we fired a gun; echo after echo resounded from cliff to cliff, and from invisible crags high over our heads the echo again returned as a voice from the clouds. The mist now showed an inclination to clear off, the rain ceased, and as we entered the inner basin of the Sound the forest increased in beauty. The totara pines, draped with festoons of grey lichen, contrasted well with the soft green of the great fern-fronds, and formed a suitable background to the scarlet blossoms of the rata (*Metrosideros lucida*) which here and there lit up the upper surface of the forest with patches of intense colour. Gleams of sunshine began to dart through the clouds, giving a momentary flash on one of the numerous cascades, and then, passing over forest and cliff, added new beauties of light and shade. When about eight miles from the open sea a booming sound rose higher over the voices of the numerous cascades, growing louder as we advanced, and, rounding a forest-clad point, we came upon the grandest of New Zealand waterfalls—the great Bowen Fall. Its first fall is only about 50 ft. into a rocky basin, but, leaping from it upwards and outwards in a most wonderful curve, it plunges down with a deafening roar in a single leap of 300 ft. The "Te Anau" was allowed to drift up in the eddy caused by the fall, and, being caught by the stream in the midst of drenching clouds of spray, she was spun round as though she were a mere floating twig; then, steaming to a short distance, she stopped again. The weather had now taken up sufficiently for us to see, through an opening in the clouds, the snow-clad top of Mitre Peak, which rises in one grand precipice of 5,560 ft. from the surface of the Sound. The glacier on Pembroke Peak showed for a few minutes, and then was lost to view; but what we saw formed the grandest combination of scenery upon which my eyes had ever rested. As these Sounds are from 200 to 300 fathoms deep, there are but few places in them where a ship could anchor; had we stayed there for the night we should have made the steamer fast to the trees.

THE SUTHERLAND WATERFALL.

But the attractions of this locality are not exhausted by a visit to the Sound itself. There are other wonders near at hand, and now easily accessible to the tourist. A favourite excursion is the one to the Sutherland Falls, distant from the Sound some thirteen or fourteen miles. Two short stages of the journey are made in boats, but the visitor has to walk the greater part of the distance. Formerly this was rather a serious undertaking for all but accomplished pedestrians, as the original bush-track was a very rough one; but a well-graded footpath has been formed all the way to the Falls, and any one capable of walking eight or ten miles on an ordinary road may safely undertake the journey. The accommodation at the end of the day's tramp is, however, of rather a primitive character, and visitors must be content to "rough it," at all events for one night. The Fall itself—1,905 ft. high—is more remarkable for grandeur than for beauty, but, in any case, it is well worth a visit, apart altogether from the splendid views of mountain, river, lake, and forest to be seen on every hand during the entire journey.

THE CLEDDAU AND MOUNT TUTOKO.

No visitor to Milford should return without taking a stroll for a few miles up the north-west branch of the Cleddau River. The writer has made an expedition into the hitherto unknown country at the head of the north-west branch of this river, and, with Mr. W. J. Hodgkins and Mr. Kenneth Ross, ascended Mount Tutoko—the highest mountain in the fiord country—discovering several new glaciers, peaks, and waterfalls. When a track is made and a hut erected at the foot of the Age Glacier, this trip will be an easy one, and very popular with tourists to the Sounds, as an easy day's walk from Milford will take the traveller on to the clear ice of the glacier, which comes down almost to the bush in the valley, only about 1,200 ft. above sea-level. The scenery at the head of the valley, which is hemmed in by precipitous glacier-crowned mountains, is very fine, rivalling anything that can be seen in the Arthur Valley or in the neighbourhood of the Sutherland Falls. Indeed, the great majority of tourists will, as soon as facilities are provided, prefer to make this trip rather than the one to the Sutherland Falls. The terminal face of the glacier is only about ten miles from the Sound. We reached it easily in a short winter's day, though we had to carry heavy swags through the trackless forest, and over the great slippery boulders of the river, which for several miles is a roaring torrent, its banks lined with beautiful bush, where the kiwi and kakapo and other strange birds find a congenial home. We pitched our tent on the ancient tree-grown moraine of the Age Glacier, and next morning started early on our climb. A certain but somewhat difficult and dangerous route to the summit presented itself up the main ice-stream, but this was abandoned in favour of the safer but more problematical one to the

right of the glacier. After ascending some 3,000 ft. above the camp we were surprised to see, right above us, a magnificent ice-fall which came from a plateau beyond. Getting above this, an easy way over gentle snow-slopes, cleft by great *bergschrunds*, led to the final peak, which we now expected to reach in an hour. Our expectations, however, were not realised, for the upper slopes were very hard, and a great deal of step-cutting was required, while the rocks on the final peak were glazed with ice. The rope and the ice-axes were here in continual use for four hours, and the greatest caution had to be observed. It was not till sunset that the crest of the final peak was reached. The view, as the sun sank in a bank of cloud to the westward, and as, almost simultaneously, the moon rose behind Tutoko, was one never to be forgotten. The aneroid showed the mountain to be over 9,000 ft. high. The descent was of a rather thrilling nature, as owing to the shortness of the daylight, we had to spend the night out on the mountain, some 2,000 ft. above our camp. The climb is an easy one till the final ice-slope and the last rocks are reached. It is possible, however, that in the summer, when the upper rocks are not glazed with ice, the final part of the ascent may also be comparatively easy, so that the climb may become a popular one with tourists. In any case, the ice-fall may be safely reached by any one who is a fairly good walker.

OVERLAND TO TE ANAU.

This is a trip which may now be safely undertaken by any one who can walk ten or fifteen miles on an ordinary hilly road, as there are huts at convenient halting-places all along the route. The pass between the Arthur and Clinton Valleys is some 3,400 ft. above sea-level; but there is a fairly good path cut through the bush on either side, and ladies have gone from the Beech Huts on the Milford side to the Mintaro Hut on the other side in three hours. The best plan is to make the journey in easy stages, camping the first night out at the Beech Huts, near the Sutherland Falls; the second night in the hut at Lake Mintaro, at the foot of the pass on the other side; the third night in the half-way hut in the Clinton Valley; and the fourth night in the hut at the head of Lake Te Anau. The views all along the route are superb, and the scenery, as viewed from the pass, with Mounts Balloon and Hart on either hand, and Mount Elliott and the pretty little Jervois Glacier opposite on the Milford side, is grand in the extreme. Those unused to bush-work should secure the services of a guide, and arrange for Mr. Snodgrass's steamer to meet them on arrival at the head of the lake.

THE LAKES DISTRICT.

Next in importance to the West Coast Sounds, but more easily accessible to the tourist, are the lakes of Otago, each having a character of its own. To get to Lakes Te Anau and Manapouri the tourist goes by rail from Invercargill or Dunedin to Lumsden, the next day proceeding by coach to the southern end of Te Anau. Here

the scenery' is somewhat uninteresting and greatly inferior to what opens out when, the following day, the traveller takes the steam-launch to the head of the lake. Te Anau, thirty-eight miles long and one to six miles wide, covers a total area of 132 square miles. It has three western arms or fiords, and numberless islands are scattered over its surface. On either side rise wooded mountains, and in rainy weather countless waterfalls descend into the lake. As one penetrates farther the beauties increase, and at the head of the lake the towering summits, often snow-capped, are most awe-inspiring. Traces of Maori occupation are plentiful at both Lakes Manapouri and Te Anau, and the remains of a *kaik* are still shown about a mile from the south end of the latter lake. The country around these lakes was once inhabited by a tribe which was exterminated by the northern Maoris. At the head of Lake Te Anau is a hut for tourists, and from thence a track runs up the Clinton Valley, over McKinnon's Saddle, and on to Milford Sound.

Lake Manapouri is reached after thirteen miles driving along the course of the Waiau, one point of the road—the Horse-shoe Bend—being very beautiful. The area of the lake is fifty square miles. The mountains around it from 6,000 ft. to 7,000 ft. high, and the islands in it are richly mantled with luxuriant growth. Above the bush-line, as in Lake Te Anau, rise the granite tops of the peaks, shattered and splintered, and often snow-clad. The two largest islands are named respectively Rona and Pomona. The scenery at the head of the lake, up the Spey River and the Mica Burn, is wonderfully fine, though as yet it is not accessible to the ordinary tourist.

Returning to Lumsden, the traveller can proceed on to Wakatipu, taking train for Kingston, which is reached in the afternoon, and steamer up the Lake to Queenstown. As he nears Queenstown, which is charmingly situated, the mountains become more impressive, and the curious Remarkables, with their double cone, rise towards his right. On the left is Ben Lomond—a favourite excursion. From its summit a magnificent view of mountains and lakes can be obtained. Another trip is to Arrowtown, which lies in an important mining district. Coming back to the Shotover Gorge, the traveller passes through wild and impressive scenery, and many features of interest are here to be noted that recall the early gold-mining days. The road to the Phoenix Mine, at Skipper's, is in many parts hewn out of the solid rock, a precipice above and below. This excursion can be made in a day on horseback from Eichardt's Hotel. The Kawarau Falls, the only outlet of Lake Wakatipu, should also be visited.

Of course, the principal excursion from Queenstown is to the head of the Lake. The tourist will find comfortable quarters and a good guide at Birley's, and many interesting journeys may be undertaken. Some of the finest scenery is up the Routeburn Valley to the Lake Harris Saddle, from which a wonderfully grand and comprehensive view is obtainable. Kinloch, Precipice Creek, Diamond

Lake, &c., can also be visited from Glenorchy; but the expedition to accomplish is the ascent of Mount Earnslaw, which is practicable, in fine weather, by any one who is a good walker and can climb a little. The view from the summit is probably the finest obtainable in Otago. The bottom of Lake Wakatipu is, according to "Murray's Guide," in some places 1,100 ft. below sea-level, although the surface of the lake is 1,000 ft. above the sea. Large and excellent trout are found in its waters, which are intensely clear, and very pure. Its area is 112 square miles, its length fifty miles, and its breadth varies from one mile to three miles and a half.

Wanaka is said to excel Wakatipu in beauty, but is smaller, being thirty miles long by three miles wide, with an area of 57,000 acres. By means of a steamer that plies on the lake, various excursions may be made—up to the head, to Manuka or Pigeon Island, curious for containing a small lake in its centre, and to East and West Wanaka, from which a fine view of Mount Aspiring can be gained. From Pembroke the tourist may drive to Lake Hawea. Here, on the surrounding ranges, numbers of red deer, introduced from Scotland by the Acclimatisation Society, are doing well. The shooting season is April and May. The foot of Mount Aspiring can be reached in a day's ride, the route lying up the Matukituki Valley.

THE SOUTHERN ALPS.

The Southern Alps of New Zealand, extending in one almost unbroken chain along the western side of the Middle Island, though not so high as the Swiss and Italian Alps, according to competent authorities, rival them in the wonderful variety and grandeur of their surroundings. In the south the ranges, which run in different directions, are intersected by the West Coast Sounds on the one side and the fiords of the great lakes on the other. The mountains here come in many cases sheer down to the water's edge, with a most luxuriant forest growth in the valleys and on their lower slopes, and tops crowned with perpetual snow and ice; the grandeur of the scenery can scarcely be imagined. Among these ranges there are innumerable peaks, glaciers, and waterfalls, and, to the climber, the mountains in the neighbourhood of Milford Sound offer some splendid rock-work. The Mitre is a bold rock mountain of 5,560 ft., rising precipitously from the water's edge, and it seems a moot point whether its final peak is possible of ascent. On the other side of the Sound, Mount Pembroke, capped with a fine glacier, also offers a good climb, while Tutoko, as I have already stated, bears the palm from an alpine climber's point of view. Next in order comes Mount Fosbery, a remarkable rock mountain, clothed in places with glacier and ice-fall, and, from the Milford side at all events, very difficult of ascent. Mount Balloon, too, is a peak almost startling in its majesty, with its 5,000 ft. or 6,000 ft. of precipices rising sheer from the Arthur Valley. But there are mountains by the score, nay, by the hundred, in this region.

Going farther north, we have another series of fine mountains.

at the head of Lake Wakatipu—Cosmos Peaks, Mount Earnslaw, Mount Tyndall, Mount Edward, Mount Anstead, and other glacier peaks, all over 8,000 ft. high; and, when it is remembered that, owing to the lower height of the snow-line and the lesser elevation at which the mountains begin to rise, a peak of 8,000 ft. in New Zealand is equal to one of from 11,000 ft. to 12,000 ft. in the European Alps, it will be seen that there is, even amongst our second- and third-rate peaks, a splendid field for alpine work. Mount Earnslaw, 9,165 ft. high—a massive mountain, with glaciers on all sides—is the predominating feature of Lake Wakatipu, and its ascent, first accomplished by the guide Harry Birley, is becoming a favourite one for tourists. Since Birley, and, subsequently, the writer and his brother, made the ascent, an easier route, quite practicable for the gentler sex, has been discovered, and many ascents have been made. The western or higher peak, however, is still unclimbed. Proceeding still farther north, we find the mountains increasing in height. Mount Aspiring, at Lake Wanaka, culminates in a fine peak, all but 10,000 ft. high, which rises majestically from a great glacier-basin. Then come Castor and Pollux, and beyond them a long chain of alps, stretching away to where Mount Cook or Aorangi towers majestic, his snowy triple peaks 12,349 ft. in air. At Mount Cook we are in the midst of the grandest scenes of the Southern Alps. Formerly it was somewhat of an undertaking to visit this locality; now, two days' coaching from the railway at Fairlie lands the traveller at the Hermitage, a comfortable hostelry at the very foot of Mount Cook. We look out from the drawing-room window on to the ice-seamed sides of Mount Sefton—a glorious peak draped in white glaciers—and we can see and hear the avalanches thundering down. Past Mount Sefton, and not five minutes' walk from the Hermitage, flows the Mueller Glacier, flanked on either side for eight miles by towering glacier-clad ranges, the scenery at its head being remarkably fine. Up another valley, under the great buttresses of Mount Cook, runs the Hooker Glacier, some twelve miles long, curving round to Mount Stokes (10,090 ft.), and receiving a number of fine tributary streams of ice from the western slopes of Aorangi—notably the Empress, Noeline, and Mona Glaciers. The ice from the Empress Glacier and the upper portion of the Hooker is very much broken up by pressure while rounding the rocky buttresses just above the Noeline Glacier, and forms a beautiful ice-wall, but one that is, late in the season, very difficult to traverse.

One of the finest views in the district is obtainable from the Sealy Range, at an altitude of about 8,000 ft. I made this excursion in 1890 with Mr. T. C. Fyfe, of Mount Cook fame, and we were charmed with the view. Immediately below us the Metelille Glacier curved gently down for some distance, and then poured its ice in one great mass into the Mueller, which, broken and crevassed, flowed northward in a gentle curve 5,000 ft. below us. From the source of the Mueller the eye swept round the peaks and glaciers of the Moorhouse Range to Mount Sefton, rearing his ice-seamed sides 10,000 ft.

in air. Then the fine peak of Mount Stokes, far away at the head of the Hooker Glacier, and the glistening snows of St. David's Dome, came into view, while down from their bases flowed the Hooker Glacier itself, swollen with the tributary ice-streams from the long southern *arete* of Mount Cook. Over the great rocky ridge of Mount Cook, on the Tasman side, appeared the bold form of Mount Haidinger, with his fine glaciers robed in shadow, save for a little patch of gleaming white on the western slope. Then came Mount De la Bêche, with the white cones of the Minaret Peaks high above all the glaciers. Still further afield was the beautiful Elie de Beaumont, flanking the north-western side of the Tasman Valley, and just beyond it the Lendenfeld Saddle and the white mass of the Hochstetter Dome terminating the valley. From the latter came the great *mer de glace* of the Tasman, plainly visible for eighteen miles, down past Elie de Beaumont, curving round between De la Bêche and Malte Brun with a majestic sweep, then flowing in a straighter line past Mounts Haidinger and Haast, receiving tribute from glacier after glacier till it stopped far down the valley, melting slowly, and issuing forth in another form—the Tasman River. Flanking it to the eastward was the Malte Brun Range, steep and rocky; and beyond that, in the hollow between that and the Liebig Range, lay in dim shadow the Murchison Glacier. What a glorious panorama of mountain scenery it was! Numbers of peaks, from 8,000 ft. to 12,000 ft. high, and between forty and fifty glaciers, were in sight at one time; while right in the midst of it all rose the dark buttresses of Aorangi, pile on pile, the final snow-peak, 12,349 ft. high, gleaming in the setting sun.

Many fine glaciers and peaks in the Southern Alps are as yet even unnamed, and, as Mr. Green has put it, there is, in the neighbourhood of Mount Cook alone, work for a whole generation of climbers. Future mountaineers will not have to contend against many of the difficulties which the pioneers have encountered, for the Government is now awakening to the fact that the scenery is one of the best assets which the colony possesses, and is spending thousands of pounds in forming roads and tracks, so that the chief points of interest will be easily accessible to tourists, who are coming in increasing numbers every year from all parts of the world. With the facilities that at present exist for travel, it is a wonder that more of the English alpine climbers do not come out to New Zealand. There is certainly here a splendid field of virgin peaks which the best among them need not deem unworthy of his prowess.

The fauna and flora, too, of the New Zealand Alps are extremely interesting. The kea, a mountain-parrot with a surprisingly powerful beak, of which, curiously, the upper mandible is jointed, has his home in these fastnesses. He is much dreaded by the runholder because of his liking for the kidney-fat of the sheep, to obtain which he settles on the back of the unfortunate animal and tears away wool and flesh till the desired dainty is reached. The weka—one of the New Zealand wingless birds—is quaintly interesting, if only for

the intense curiosity it evinces in the doings of the "featherless biped." In more southern latitudes are found other strange birds, such as the kakapo and the kiwi. There are many other birds likewise to be met with, interesting alike to the naturalist and the sportsman.

At Mount Cook the flora is particularly beautiful and interesting. In the sub-alpine glens numerous berry-bearing plants abound, while in favourable spots the alpine vegetation is varied and luxuriant. There are several kinds of ranunculas, and a bewildering variety of celmesias, gentians, and senecios also flourish. Among the rocks, at higher altitudes, the edelweiss, differing but slightly from the Swiss variety, grows in profusion.

EQUIPMENT.

The visitor to New Zealand who is desirous of going beyond the verge of civilisation is often puzzled as to what he should take with him in the way of equipment, so a few hints may not be out of place here.

For the Sounds trip, fairly strong and easily-fitting boots are a *sine qua non* if the tourist intends to visit the Sutherland Falls, the Cleddau Valley, &c. Long thin gloves and an ample veil are also necessary in the summer time to ward off the attacks of the myriads of sandflies, which, under some circumstances, make life in the Sounds almost unbearable.

Referring generally to the question of outfit for travelling amongst the mountains, let us consider first the question of clothes. These should be made entirely of wool. A tweed knickerbocker suit with Norfolk jacket, flannel shirt, and fairly thick stockings will be found most serviceable. The lining of the pockets should be also of wool. A Norfolk jacket without the pleats is preferable to the ordinary kind. It should be well supplied with pockets made with flaps to button, one or two being lined inside with mackintosh. Boots should be fairly strong in the uppers, and have stout projecting soles nailed with clinkers at the edges and hobs in the middle. It is difficult to get the proper nails for alpine work in New Zealand, though nails that answer the purpose fairly well are obtainable in Christchurch and Timaru. Enough nails for one pair of boots and some to spare can be got from Switzerland by sending a post-office order for 6s. to Ulrich Almer, guide, of Grindelwald. An ice-axe, alpine rope, sleeping-bag, smoke-tinted goggles, knitted anklets or gaiters to keep the snow out of the boots, and woollen gloves, are also necessary if any real alpine work is contemplated. A Whympet tent, *i.e.*, one with a waterproof floor sewn into it, will be necessary for the more arduous expeditions. On the overland track to Milford Sound a tent need not be taken, as there are huts along the track; but blankets and provisions will have to be carried. A pair of rubber-soled gymnastic shoes are a great comfort in camp after a day's march. In Dr. Claude Wilson's excellent little book on mountaineering will be found a packing-list, which will serve to

remind travellers of what it is necessary to provide themselves with. Much valuable information will also be found in the Badminton Library volume on "Mountaineering," by Dr. Clinton Dent and others. It will be well for the tourist, however, to remember that in New Zealand there is often difficulty in securing porters, and in thinking of his own back he will no doubt see his way to do without many of the items enumerated by these writers.

The following are some of the principal books and pamphlets dealing with the sounds, lakes, and alps of New Zealand. Many of the works mentioned are out of print, but nearly all can be seen in the public libraries of the colony:—

NEW ZEALAND ALPINE LITERATURE.

- HAAST, Sir Julius von.—"Geology of Canterbury and Westland": Times Office, Christchurch, 1879. Contains geological maps, coloured and plain, and illustrations from photographs by E. P. Sealy; both printed at Vienna.
- HAAST, Sir Julius von.—"Head Waters of the Rakaia": Press Office, Christchurch, 1886. Contains twenty illustrations.
- HAAST, Sir Julius von.—"Notes on the Mountains and Glaciers of the Canterbury Province": *Journal of the Royal Geographical Society*, xxxiv., 87, 1864.
- HAAST, Sir Julius von.—"On the Physical Geography of New Zealand, principally in reference to the Southern Alps": *Proceedings of the Royal Society of Melbourne*, 1861.
- HECTOR, Sir James.—"Geological Expedition to the West Coast of Otago"; *Otago Provincial Government Gazette*, 5th November, 1863. With sketch-map.
- HECTOR, Sir James.—"Handbook of New Zealand"; Lyon and Blair, Wellington, 1879. With maps and plates.
- HOCHSTETTER, F. von.—"New Zealand: its Physical Geography, Geology, and Natural History"; English edition, published by Williams and Norgate in 1868. Maps and illustrations.
- HOCHSTETTER, F. von.—"Der Franz-Josef-Gletscher," *Ausland*, 1867; *Mittheil. der Geogr. Ges. zu Wien*, x., 57, 1866-67.
- LENDENFELDT, R. von.—"Ascent of Hochstetter Dom"; *Canterbury Times*, 14th April, 1883; *Australasian*, 5th May, 1883.
- LENDENFELDT, R. von.—"Der Tasman-Gletscher und seine Umrandung," *Ergänzungsheft No. 75*; zu *Petermann's Mittheilungen*, Gotha; Justus Perthes, 1884. Contains illustrations and a very fine map.
- THOMSON, J. T.—"Survey of the Southern Districts of Otago"; *Journal of the Royal Geographical Society*, xxviii., 298.
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- BLAIR, W. N.—"The Cold Lakes of New Zealand"; *Scottish Geographical Magazine*, vol. iii., No. 11, 1867.
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- GREEN, Rev. W. S., A.C.—"The High Alps of New Zealand"; Macmillan and Co., 1883. Contains an account of Ascent of Mount Cook.
- GREEN, Rev. W. S., A.C.—"Fels. u. Gletscherspuren am Mount Cook in Neu-Seeland"; *Peterm. Mitt.*, 1883, p. 53.
- HINGSTON, J.—"The New Zealand Sounds"; *Victorian Review*, viii., 622-38, September, 1883. Also pamphlet, "Seeing the Sounds," obtainable from the Union Steamship Co., Dunedin.

- HUTTON, F. W.—"Sketch of the Geology of New Zealand"; abstract, in *Nature*, xxxi., 305, 1885.
- HUTTON, F. W.—"Report on the Tarawera Volcanic District"; Government Printer, Wellington, 1887.
- GEORGE, Sir Archibald.—"Tarawera Eruption"; *Nature*, xxxiv., 320-22; *Contemporary Review*, October, 1886, pp. 481-92.
- SMITH, S. Percy.—"The Eruption of Tarawera"; Government Printer, Wellington, 1886.
- MANNERING, G. E.—"With Axe and Rope in the New Zealand Alps"; Longmans, Green, and Co., 1891. Illustrated.
- McHUTCHESON, W.—"Camp-life in Fiordland: A Tale of the Sutherland Falls"; Government Printer, Wellington, 1892. With map and illustrations.
- ROSS, Malcolm.—"Guide to the Lakes of Central Otago"; Government Printer, Wellington, 1889. Map and illustrations.
- ROSS, Malcolm.—"Aorangi: or, The Heart of the Southern Alps, New Zealand"; Government Printer, Wellington, 1892. With maps and illustrations.
- ROSS, Malcolm.—"The West Coast Sounds of New Zealand: An Account of a Trip in the Union Company's s.s. 'Tarawera'; J. Wilkie and Co., Dunedin, 1893. Numerous illustrations.
- "Maoriland: An Illustrated Handbook of New Zealand"; published by the Union Steamship Company of New Zealand, 1884. Articles by Rev. R. Waddell, M.A.; A. Wilson, M.A.; and T. W. Whitson. Maps and illustrations.
- "Report of the Survey Department of New Zealand"; Government Printer, Wellington. Recent numbers contain interesting articles by T. Mackenzie, M.H.R., T. N. Brodrick, E. P. Harper, and others, regarding mountain exploration.
- "New Zealand Alpine Journal"—Nos. 1 to 7; Whitcombe and Tombs, Christchurch. Various articles by members of the New Zealand Alpine Club.
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PART IV.—DESCRIPTION OF LAND DISTRICTS.

THE AUCKLAND LAND DISTRICT.

G. MUELLER, Chief Surveyor.

Introductory.

THE Auckland Land District covers about four and a half degrees of latitude, extending from $34^{\circ} 30'$ to 39° S., its greatest length being about 365 miles, from the North Cape to the 39th parallel, south of Lake Taupo, while its greatest width is about 180 miles. In the peninsula north of Auckland, indented as it is on either side by harbours and arms of the sea, and with a mean width between the Pacific Ocean and Tasman Sea of little over forty miles, the range of temperature is remarkably small. The thermometer seldom registers above 80° in the shade in the middle of summer, whilst the heat is always tempered by a cool breeze, bringing the mean summer temperature to under 70° in the shade. The frosts are hardly worth mentioning, as the minimum register is seldom below 40° ; but south of Auckland sharp white frosts occur very often, more especially beyond 38° of latitude, and snow lies upon the summits of some of the highest hills or mountains in winter.

Physical Features.

This land district may be said to have no real mountains, as the most prominent peaks of the several scattered ranges or hills seldom exceed 3,000 ft. in height above the sea-level, an altitude just enough—south of 38° —to clothe the last 1,000 ft. with snow in the depth of winter. North of Hokianga and the Bay of Islands there is one well-defined range of hills rising to a height of 2,463 ft.; whilst south of these places, and extending to the Wairoa River on one side and the Whangarei Harbour upon the other, the country is all more or less broken into ranges from 1,000 ft. to 2,000 ft. in height, with valleys between. The next really well developed main range lies within the Coromandel and Thames Peninsula. With a length of over 150 miles, it has an average height of over 2,800 ft., commencing with Moehau, or Cape Colville, 2,800 ft.; next, Te Aroha, a peak of 3,176 ft.; and ending at Weraiti with a height of 2,527 ft. There are two other well-defined ranges—namely, Tawairoa and Hauturu—lying between the West Coast and the Waipa basin, with their highest peak at Pirongia, which rises to 3,156 ft., and is often snow-capped. There are other ranges forming the watershed between the basins of the Waikato and Waipa Rivers, and dividing both from the streams running into the western side of Lake Taupo. Their highest peak is Pureora, rising to 3,793 ft. The eastern side of the land district is occupied by a very broken, forest-clad country, known as the Urewera Country, the average height of which is about 2,500 ft. It is practically unexplored, and, being still in the hands of the Natives, is not as yet available for settlement. To the east of Lake Taupo lie the Kaimanawa Ranges, of about 4,500 ft., and generally open on the ridges, with valleys clothed in beech forests. Nearly the whole of the Auckland Land District is indented on both coasts with harbours and arms of the sea, forming a cheap and easy means of access. Of rivers, properly so called, there are only two of any great length—namely, the Wairoa and Waikato. The first empties itself into the Kaipara Harbour, a large arm, or rather succession of arms, of the sea, giving hundreds of miles of inland water-carriage to all parts of the Counties of Hobson, Otamatea, Rodney, and Waitemata. This river is navigable from its mouth to its junction with its tributaries Wairua and Mangakahia, a distance of ninety-one miles from the sea,

and for forty miles it is navigable for ships of large burden. The River Waikato has a course of 200 miles, measured from its source in the Ruapehu Mountain through Lake Taupo to the sea on the West Coast. It is navigable for river-steamers for seventy-five miles from its mouth. Another river—the Thames, or Waihou—though of no great length, affords a valuable means of inland water-carriage, and is navigable for small steamers for twenty-five miles. Generally speaking, every part of the district has an abundant water-supply, now and then lessened for a short time at the end of a very dry summer.

Plains.

Of plains proper, this district has only the stretch of country called Kaingaroa, extending from the eastern side of Lake Taupo towards the Bay of Plenty, all more or less of a pumice formation; the valley of the Thames, which is generally level, the quality of the soil varying very much in different parts; and the Central Waikato basin, already thickly settled. Here and there in the North there are level plateaux of volcanic soil, more or less densely wooded, and along the main rivers there are stretches of level country, but there are no large plains of alluvial soil such as the Middle Island can show.

Lakes.

Of these, which add so much to the scenery of a country, this district possesses a fair share, there being eight principal lakes, with some twenty or more smaller ones. To the north of Auckland, in the Bay of Islands district, there is only one lake of any size, called Omapere, three miles by two miles, an old crater. In the Waikato are Lakes Waikari and Whangape, the first six miles and a half long by three miles across, and the second five miles by one mile. These lakes are generally covered with numerous wild swans and ducks, and, being both connected with the Waikato River by navigable creeks, form a convenient waterway for transport of goods to settlers living around their shores. All the remaining lakes of large size are within the watershed of the Thermal-springs District, and are mostly from seven to eight miles long, and from three to six miles wide, except Taupo Moana, the queen of the North Island lakes, which is twenty-five miles long and eighteen miles broad, with a depth of 500 ft. The scenery round its western shore is of the most romantic kind.

Forests.

The greater part of the Auckland Land District has been covered in the past with dense forests, which are now fast disappearing under the axe of the settler and being transformed into rich pasture-land. The only really good Crown lands fit for settlement in the North are still all covered with forest, and must be cleared and sown before any returns can follow. The area of forest-land in the Auckland District at the present time is about 1,800,000 acres north of Auckland, and 3,420,000 acres south of it. The forests contain a mixture of trees of all kinds, from the giant kauri to scrubby tea-tree or manuka, but all the bush is useful for building, fencing, and household purposes, or at any rate may be converted into charcoal for sale. Of the giant kauri (the most valuable tree in New Zealand) great quantities, worth as much as £400,000 per annum, are being yearly cut, and exported or used for home consumption. To give some idea of the size of these trees, and the amount of timber contained in them, it is estimated that upon the Crown land to the north of Auckland, in the Counties of Hokianga, Hobson, Bay of Islands, and Whangarei, there are still remaining 498,000,000 feet, of a value, as the timber stands, of £1,294,000.

Soils.

With respect to the soils of Auckland, nowhere in New Zealand within such short distances is there such a diversity in the quality—a distance of half a mile often makes all the difference between rich alluvial and barren pipeclay. To the north of the Bay of Islands and Hokianga the lands are chiefly clay and sandstone, with here and there a volcanic area intervening. In and about the valley of the Mangonuiwae River, in the Hokianga County, there is some of the richest

alluvial soil in the district; and, taking the whole Crown land remaining to the north of a line between the Hokianga and Bay of Islands Harbours, the really available good land fit for settlement would be about 40,000 acres. There are large areas outside of this which will carry good grass and feed one or two sheep to the acre, after clearing and laying down in grass; and there is also land highly suitable for fruit-growing. South of Hokianga, and between that place and the Wairoa River, the soil is, generally speaking, very good, being both volcanic and alluvial. Here the Crown has probably 200,000 acres of such land fit for settlement. Immediately south of the Bay of Islands, and extending thence to Whangarei, the soil is, for the most part, clay lying upon sandstone or marl, with alluvial flats in the bottoms of the valleys; but these are, as a rule, very narrow. Within the Puhupuhi State Forest there is an area, say, of 16,000 acres, more or less, volcanic soil, over a large portion of which a fire has run; having been surface-sown with grass, it is now carrying most luxuriant pasture. Approaching Whangarei, at Hikurangi, the limestone crops out, overlying coal-deposits, and round Whangarei itself the soil becomes a rich volcanic, in a high state of cultivation. South of Whangarei Harbour, and from thence to Auckland, the Crown lands generally are of a broken character, with soil varying from alluvial swamps—as in the case of the Tokatoka Swamp of 16,000 acres—to the limestone areas round Maungaturoto, the sandstone and clay lands of Rodney County, and the poorer clay-lands lying north of the City of Auckland, which have, however, proved eminently suitable for fruit-growing.

For about 200 miles south of Auckland the land (with the exception of the Cape Colville Ranges) is, generally speaking, far less broken, and gradually opens out into large tracts of level country in the Waikato and Waipa basins. Immediately south of Auckland the soil is rich volcanic until it is gradually superseded by the prevailing clays; the greater portion of Manukau County, for thirty miles south of Auckland, may be classed as pastoral, and is under occupation as such. The Crown areas available for settlement—say, 16,000 acres—are chiefly in the Otau Parish, varying from volcanic clay to ordinary clay land, forest-clad, and well adapted for pastoral purposes. In the Counties of Waikato, Raglan, Waipa, Piako, West Taupo, and Kawhia, there is a still greater diversity of soils; Raglan County contains large areas of good limestone country, broken, but with rich black soil, and carrying most luxuriant grass. The lower Waikato country consists of clay soil and extensive swamps, almost undrainable, but at a distance of eighty miles from Auckland is found a flat and undulating country, lying partly within the Waikato and Waipa basins, and partly within the valleys of the Piako and Waihou Rivers, formed mainly of alluvial deposits of rhyolite sands brought down from the volcanic districts. In the Kawhia County there are some 300,000 acres of excellent limestone land, a large portion of which is heavily timbered, with numerous warm valleys. Most of this land is now being acquired by the Government from the Native owners. Beyond this there is a large stretch of country consisting alternately of open valleys and forest-clad hills, a fair proportion of which is good land, both pastoral and agricultural. The County of Coromandel, with portions of Thames and Ohinemuri Counties, is chiefly devoted to the mining industry. The soil is nearly all clay, the land very broken, but suitable for pastoral purposes if cleared of the dense forest that now covers it. The western portion, however, of the Thames and Ohinemuri Counties contain large areas of alluvial and swamp lands, now in the hands of the Crown, but, through want of drainage, not yet available for settlement.

In the County of Tauranga, the clay lands extend from Te Aroha Mountain to Katikati entrance, changing, near Tauranga, to sandstone and black pumice soil of rich character, which improves towards Te Puke and Maketu, where the land is all good, and more or less volcanic. In Whakatane County there are very extensive swamps, of which large portions are drainable, and back from the coast seven miles or so are large areas of Crown lands, broken and forest-covered, open for settlement. The soil is chiefly clay or light loam, with alluvial flats in the valleys, and all well watered. This kind of country extends to the boundary of the land district. The coastal lands are nearly all alluvial flats in a high state of cultivation, and the settlers mostly well-to-do.

Review of Soils: Uses and Returns.

Briefly to set forth the capabilities of the Crown lands in the district, it will suffice to say that north of the Bay of Islands and Hokianga the land is suitable chiefly for two classes of persons—the gum-digger, and the fruit-grower or small farmer. The former has the range over large areas of Crown lands upon paying a small fee, and his earnings average from 5s. to 10s. a day. As for the latter, in and around Hokianga, with its 250 miles of water-frontage, almost anything can be grown, from the tropical banana to the more prosaic potato, whilst oranges and lemons flourish side by side with all kinds of apples, pears, and plums. Wheat does fairly well, and maize gives a return of 50 to 60 bushels an acre. Sheep also thrive; and most of the lands, when properly grassed with artificial grasses, will carry two or three sheep to an acre, but ordinary rough-grassed lands only one and a half to two sheep per acre. The clearing of forest-lands, ring-fencing and grassing them, will cost about £3 to £3 10s. per acre. The same remarks apply to the Bay of Islands and Whangarei, and to the country as far south as Auckland. Round about Whangarei district, and under similar conditions of culture, the average return for good agricultural or pastoral lands would be fully 12s. an acre per annum. South of Auckland, throughout the Waikato, Piako, Waipa, and Raglan Counties, and thence south to the district boundaries, the land is both agricultural and pastoral. All the cereals do well, wheat averaging 27 to 30 and up to 40 bushels per acre, and oats 26 bushels per acre. Potatoes average from 5 to 7 tons per acre. Dairy-farming is carried on, yielding (upon well-cultivated farms) a net profit of 15s. to 20s. an acre per annum; whilst sheep-farming yields a profit of from 5s. to 7s. 6d. a sheep per annum on very large estates; allowing for greater losses from disease, &c., the average return would still be 4s. per sheep. The cost of clearing fern and scrub is generally from 7s. to 10s. an acre, and laying down fern-land by surface-sowing and harrowing, about 17s. an acre.

The seaward counties of Tauranga and Whakatane are both agricultural and pastoral, growing wheat and maize alike to great perfection. In fact, the County of Whakatane, upon its alluvial shores and uplands, grows the greater portion of the maize produced in the district, and from the ports of Whakatane and Opotiki in one year some 34,000 sacks have been exported. In these counties the average yield of wheat is from 22 to 25 bushels per acre, oats about 29 bushels per acre, and maize 45 to 60 bushels per acre. It is quite possible within this district to select land early in the winter, fell and burn off by the ensuing summer, sow in grass in the autumn, and put on stock within twelve months from selection.

Rainfall.

The rainfall during the year averages about 39 in., the greater portion of which, as a rule, falls between the 1st of May and 1st of November, or during the winter and spring months. Owing to the constant changes of wind, caused by the configuration of the coast-line, the shortness of the distance between the two coasts, and the influence, greater or less, of the trade-winds, it is quite common for one neighbourhood to have double the rainfall of another, even though the two be only twenty miles apart. Droughts of more than a couple of months are practically unknown, and grass is always abundant.

Winds.

One of the chief means whereby the great healthiness of the climate is maintained is the constant presence of fine breezes, blowing both summer and winter, the prevailing winds being north-east and south-west, and very seldom passing into really heavy gales. In the middle of summer, the sea-breeze during the day and the land breeze at night are almost unvarying.

General Products and Industries.

Timber.—The vast forests of kauri and other valuable trees have given this district the foremost place for production and export of timber. There are many safe and sheltered harbours for shipping, while streams and rivers without number form convenient highways for conveying logs to the mills or ports. Some idea of the

extent of this industry may be given by quoting from the official returns made at the time of the last census. There were then forty-nine steam saw-mills situated in various parts of the district, with engines of a total of some 2,000-horse power. These mills employed over a thousand men, and produced yearly some 80,000,000ft. of sawn timber, valued at £301,328; of timber resawn into flooring, skirting, &c., some 21,000,000ft., valued at upwards of £91,000, not to mention posts and rails, mouldings, sashes, and doors. Besides this output, in the remoter parts of the district large quantities of timber are hand-sawn. The durable puriri is converted into railway-sleepers, for which there is a great demand, and the totara is largely sought after for telegraph-posts and wharf-piles.

Kauri-gum.—The most unique production of this portion of the colony is kauri-gum, obtained for the most part from the country north of Auckland. It is formed by the hardening of the exuded turpentine from the kauri tree, and is dug out of ground from which the forest has been burnt off. The Royal Commission appointed in 1893 elicited the fact that the procuring of the gum gave employment then to no less than 6,897 persons. Last year 6,641 tons were exported, valued at £398,010. The kauri-gum is extensively used in the manufacture of varnish, and also for glazing calico. Nearly two-thirds of the varnishes in the market are produced from this gum. The average earnings of a digger may be taken as from £1 7s. to £1 10s. per week.

Flax (*Phormium tenax*).—An industry, which is for the present in a languishing condition, is the conversion of the broad leaves of the *Phormium tenax* into marketable flax suitable for the manufacture of rope, twine, mats, mattresses, and numerous other articles. The flax-mills are scattered over different parts of the district, as near rail- or water-carriage as possible, and employ about eighty men and boys, whilst the local rope-and-twine works give work to some forty more.

Gold.—This district has in the past produced large quantities of gold, but the area over which auriferous quartz-reefs have been discovered is limited to the Counties of Coromandel, Thames, Ohinemuri, and a small portion of Piako. In 1897 the output of this neighbourhood was 42 per cent. of all the gold produced in New Zealand, the quantity (105,477 oz.) entered for duty for exportation having been valued at £392,337. From 1878 to 1892 the Thames Goldfield alone produced some 600,000 oz. Now that the area over which auriferous quartz-reefs have been discovered has increased, a much larger output may be expected in the future. The total estimated value of the gold was £401,602 for 1897-98, against £358,231 in the previous year. All the gold won was obtained by battery amalgamation, and the bullion by the cyanide process. There is a large amount of English capital being expended in developing new discoveries in out-districts away from the goldfield, but it will be some time yet before these discoveries have reached their full development. At the Thames there is a School of Mines, well attended and showing good results.

Coal.—Coal is found in most parts of this district, and is being worked with more or less success at Kawakawa, Hikurangi, Kamo, and Ngunguru, to the north of Auckland; whilst in the south there are three mines at Huntly, all turning out a good household coal. The total output of all the mines in 1897 was more than 140,000 tons.

Fruit.—The climate of the Auckland District is well adapted for the growth of the orange, lemon, vine, and olive, as also for the fruits of England, America, and Japan. The subtropical kinds flourish about Hokianga, in the north; those of the temperate regions, in the Waikato and neighbourhood. Now that the problem of how to land fruit in good condition in the London market has been solved, orchard planting is rapidly progressing, and it has been found that the culture of the hard varieties of the apple will repay export to England. Of late years a demand has set in for the poor clay-land that used to contain gum, as it is admirably suited for fruit-growing. Orchards are now planted in neighbourhoods where the soil has lain idle for years, for it has been proved that apples grown on this poor soil keep longer than those grown on richer land. More attention is being just now paid to stone fruits, for which there is always a steady local market, than to apples, which have

of late years been heavily handicapped by blight. The fruit industry in Auckland is yet in its infancy, and is capable of great extension. At present peaches are the only fruit canned, though there is also a good deal done in the way of drying fruits and vegetables by the process of evaporation.

Fishing.—The sea and harbours abound in fish. At least eighteen different varieties, suitable for the table, are caught with little labour, and settlers living near the sea-coast, or any one of the many harbours and tidal rivers, can always obtain enough for all necessities. At present the canning industry is confined to mullet, of which there is a large amount exported, and an equal quantity used for home consumption. The rock-oyster is found over a large area on these coasts, and large quantities are sent both to the southern ports of the colony and also to Australia.

Chief Centres and Surrounding Districts.

The City of Auckland lies on the southern shore of the Waitemata Harbour, one of the finest havens in the colony, on a narrow neck of land between the Waitemata and the Manukau. Alike from the sea and from the neighbouring hills the city and surrounding country present a charming picture. Especially fine is the view from Mount Eden, a low volcanic hill in the suburbs. Facing the town are the green hills and white houses of the North Shore, and the remarkable peak of Rangitoto; beyond lie the many islands of the Hauraki Gulf, with the blue hills of Coromandel and the Great Barrier in the far distance. Clustered near the foot of the hill, and scattered for many miles to the southward, are charming villa-like houses, with tasteful gardens and shrubberies, while to the north-west the view is closed by high wooded ranges. The city is unrivalled for its commercial position; it has communication by sea with both sides of the Island, while the Kaipara and Wairoa Rivers leading far into the northern peninsula, and to the south the Waikato and Thames Rivers leading into the heart of the Island, give it excellent natural facilities for inland communication. In April, 1896, the population of the city and suburbs amounted to 57,616 persons. The city is well supplied with gas and water, and amongst public buildings may be noticed Government House, the new Government Offices, Post and Telegraph Offices, Supreme Court, &c. There is a Free Public Library and Art Gallery, and a good Museum, containing what is probably the best Maori collection in the world. The Auckland University College is affiliated to the New Zealand University. The Victoria Arcade, the Exchange, Harbour Board Offices, hotels and clubs, as well as many commercial buildings, compare favourably with those in other parts of the colony. There are admirable recreation-grounds, including the Government Domain of about 180 acres, as well as the Botanic Garden and the Albert Park in the centre of the city. There is a tramway system extending through the suburbs. Auckland has numerous industries, including, amongst others, ship-building, sugar-refining, timber-converting, sash-and-door manufactories; rope-and-twine, pottery, brick-and-tile, and varnish works, printing-offices, &c.

The City of Auckland is the centre from which radiate all railways, road-, and steamer-routes. From it, by rail, lies the way to all Crown lands south of the Waitemata, while the Kaipara Railway connects it with the country north of Helensville. All lands to the north and along the Bay of Plenty are reached from its wharves by the Northern Company's steamers. The chief centres to the north are:—

Warkworth, on the East Coast, forty miles from Auckland, with communication by coach and steamer nearly every day. It is a thriving township, with post- and telegraph-office, public halls, hotels, &c., and is the starting-point for the Tuhono and Pakiri Crown lands. It is also the site of important hydraulic-lime and cement works. A good deal of agricultural and pastoral farming is carried on in its neighbourhood.

On the West Coast an important centre is Helensville, on the Kaipara Harbour, distant thirty-six miles from Auckland, with which it is connected by rail. It has all the conveniences required by travellers in the shape of good hotels, stores, &c., and is the starting-point of the river-steamers running to all places in the Otamatea and Hobson Counties. It is also one of the main centres for sawmilling, and for the export of balk timber by large vessels to other colonies, and has several flax-mills.

Dargaville, on the Wairoa River, is a town of about 400 inhabitants, with all conveniences for travellers. It may be reached by rail and steamer from Auckland three times a week. Dargaville is the starting-point of the Kaihu Valley Railway, which is open for traffic for twenty miles from the town, and from the terminus of the railway all the Crown lands in the neighbourhood are reached, even so far north as Hokianga. The town is also the centre of a very large timber export. There are only two townships of any importance north of Dargaville—Port Rawene, or Hokianga, and Kohukohu, about four miles further up. Both have post- and telegraph-stations, and comfortable hotels, with fortnightly steam-communication from Auckland.

Whangarei, on the East Coast, is distant seventy-five miles from Auckland, with which it has steam-communication twice a week. The town is a thriving and important place, having a population of about 1,250, and is the centre of a large agricultural and pastoral country. In the neighbourhood is also a large coal-bearing and gum-producing district, while the export of oranges and lemons, which thrive magnificently on the rich volcanic soil, is increasing fast. From here a coach runs weekly to Kawakawa, upon the arrival of the Northern Company's steamer, and from it, by carriage or horse, all lands can be visited within a radius of thirty to forty miles.

Kawakawa, at the head of the tidal portion of the river of the same name, is connected by a short railway-line with Opua, the calling-place of steamers from Auckland. Kawakawa possesses good inns. From it coaches run weekly to Hokianga and Whangarei. It is the centre of a coal and gum industry, and a port of lading for those products. The old town of Russell is situated further down the bay, and has good inns, besides having a post- and telegraph-office. To Whangaroa and Mongonui the Northern Company's steamers run every week. Whangaroa is famed for its exquisite scenery, and is the centre of a large timber- and gum-export trade. Mongonui is the starting-point and centre from which to visit, by carriage or horse, all the Crown lands in the Mongonui County, and from it the steamer "Staffa" runs to Awanui and ports beyond, in connection with the weekly steamer from Auckland.

South of Auckland, along the Waikato Railway, there are numerous townships of more or less importance, but no starting-point for Crown lands, until Mercer is reached at a distance of forty-three miles. It is situated at the borders of what is known as the Waikato Country, upon the Waikato River, which is tidal up to this point, and the township has a post- and telegraph-office and other conveniences. At sixty-five miles from Auckland by rail is Huntly, also on the Waikato River, a flourishing township, with a very large output of valuable coal. It has also pottery-, brick-, and tile-works. On the opposite side of the Waikato River large areas of Crown lands are being brought into use, and are carrying many sheep and cattle. The next town is Ngauwahia, or Newcastle, seventy-four miles from Auckland, situated at the junction of the Waikato and Waipa Rivers, with hotels, bank, post- and telegraph-office. It is a centre from which portions of Crown lands in Raglan County are reached, and also from it river-steamers run north and south to the various settlements. Ngauwahia has a flourishing creamery, a brewery, and a cooperage. At eighty-four miles from Auckland the train reaches Frankton Junction, where a line branches off to Hamilton, Te Aroha, and Oxford, the main line going to Te Awamutu, ninety-nine miles from Auckland. The latter is a thriving town; but to reach available lands for future settlement the traveller passes on by rail to Otorohanga and Te Kuiti, fifteen and twenty miles further on respectively, at both of which places there are accommodation-houses, forming convenient centres for visiting the fertile undulating limestone lands in the vicinity. Hamilton is a busy, flourishing town, situated on both sides of the Waikato River, with a population of about 1,300 persons, and is the centre of a large agricultural and pastoral district. It possesses a creamery, flax-mill, brewery, and two soap-factories, besides other local industries. Cambridge, about thirteen miles by road and fifteen miles by rail from Hamilton, has a population of about 900, and is the headquarters of the Farmers' Club. It is a busy, thriving township, surrounded by good farming country. Between Hamilton and Cambridge, and in the country

round, there are numerous creameries, cheese- and butter-factories; wine- and cider-making is also successfully pursued, and there are several apiaries, from which large quantities of honey are produced. There are three flour-mills in the district, one at Cambridge, one at Hamilton, and the third at the terminus of one of the before-mentioned branch lines. One hundred and sixteen miles from Auckland by rail is Te Aroha, a quiet township, celebrated for its thermal springs and good hotels.

The settlements at the Thames and Coromandel are essentially mining townships. The first is situated thirty-eight miles by steamer from Auckland, on the Firth of Thames, and at the mouth of the Waihou River. It has a population of about 5,500 persons. There is daily steam-communication with Auckland, and a railway connecting it with Paeroa and Te Aroha. Coromandel is about thirty-five miles from Auckland, with which it has constant communication by steamer; it is another mining centre, situated at the head of a picturesque harbour. Tauranga, with a population of about 1,050, is situated on the harbour of that name in the Bay of Plenty. Coaches run thither from the Thames, and from Rotorua; it has also constant communication by steamer with Auckland, and with Matata, Whakatane, and Opotiki. From the fact of the harbour being the only one on the East Coast capable of receiving large vessels the town is bound to be of importance in the future. Tauranga has a new and well-appointed flour-mill upon the Waimapu River, also a chemical and sulphuric-acid works, and a cheese factory.

Opotiki, the second town of importance in the Bay of Plenty, is situated about sixty-five miles by steamer or road from Tauranga. It has weekly steam communication with Auckland, and is connected with Gisborne by a bridle-track. It is the headquarters of the maize-producing district, and has rich alluvial lands, from which good returns are obtained. It is a good starting-point from which large blocks of Crown lands suitable for pastoral purposes may be reached.

The Township of Rotorua is situated on the shores of Rotorua Lake, at a distance of 172 miles from Auckland. Since the railway from Oxford was opened travellers can now reach Rotorua in one day from Auckland. It is the chief township in the hot-lakes district, and has also a large area of fairly good Crown land near, adapted for pastoral purposes. Considerable quantities of sulphur are obtained from the neighbourhood.

Crown or Native Lands available for Future Settlement.

In the Mangonui County the Crown possesses 108,150 acres of fairly-good forest-land, tolerably easy of access.

In the Bay of Islands County there are only about 16,050 acres of available Crown land, both forest and open, but the Natives still own some 152,000 acres, chiefly forest land, except about Kaikohe, where it is open and rich volcanic land, most of it broken, but fit for settlement.

In Hokianga County there are some 164,000 acres of available Crown land, of good quality, nearly all covered with forest, and fit for immediate settlement. The Natives still own some 105,000 acres, almost all good land, and fit for settlement.

In Whangarei County there are about 66,300 acres of available Crown land, mostly broken and forest-clad. The Natives still retain some 32,650 acres of land, part of it very rich.

In the Otamatea County the Crown retains only about 11,630 acres, a good deal of this being alluvial swamp, and well worth draining. The Natives still own about 20,000 acres, but not much of it is fit for settlement.

In the Rodney and Waitemata Counties about 14,100 acres of Crown lands are left, most of it fit only for pastoral or fruit-growing purposes. The Natives still own about 14,000 acres in these two counties, some of it very good land.

In the Manukau County the Crown owns some 15,600 acres of broken forest land, fit for pastoral purposes. The Natives still own about 15,000 acres, a portion of which is fairly good.

In the Waikato and Raglan Counties the Crown lands amount to about 47,800 acres, all fairly good land, mostly forest, and easy of access. In Raglan

County the Natives still own the freehold of 150,000 acres, all good land, but difficult to secure.

In the Coromandel, Thames, and Ohinemuri Counties there are about 116,800 acres of available Crown lands. In the last two counties a good deal of the land is swampy, and requires draining. The Natives still own 120,000 acres, much of which is very good.

In Tauranga, Whakatane, and Rotorua Counties the Crown owns 497,800 acres, nearly all forest-clad, and generally broken; but in the last-named county the Natives retain a very large area, the greater part too broken or too much covered with pumice or volcanic ash to be fit for settlement.

In the Kawhia and West Taupo Counties the Crown is acquiring from the Natives large areas of very good land, all fit for settlement and easy of access. About 300,000 acres are really first-class land, and about 1,000,000 acres fairly good land, all suitable for pastoral purposes, and accessible from the Main Trunk Railway-line.

The Crown now hold about 240,000 acres in Kawhia County and 78,600 acres in West Taupo County.

THE TARANAKI LAND DISTRICT.

J. STRAUCHON, Chief Surveyor.

The Taranaki Land District is situated on the western side of the North Island of New Zealand, at about its widest part, and may be said to be the most compact and fertile district of the colony, for, with the exception of the upper half of Mount Egmont, and of the ranges adjoining, which absorb about 36,000 acres, the whole of the area—minus what is taken up by the rivers, streams, and lakes—is suitable for settlement, and certainly two-thirds of the district is good land. The gross area of the district is 2,430,000 acres.

Physical Features.

Of mountains, the principal one is the beautiful volcanic cone from which the district takes its name, Taranaki, otherwise called Mount Egmont, which has an altitude of 8,260 ft. This mountain is the centre of distribution for a radius of twenty miles of the volcanic formation known as the "drift," which covers the volcanic rocks below an altitude of 3,000 ft. Hummocks composed of trachyte boulders and cement crop up here and there and make excellent metal-quarries.

Beyond the volcanic formation—that is, from about Urenui on the north and Hawera on the south—the country is generally broken, and the formation is known as papa, a calcareous blue clay, capped in many places by shelly limestone.

The northern portion, between the Tongaporutu and the Mokau Rivers, contains also limestone, greensands, and coal outcrops. At Panirau, a small tributary of the Mokau, about thirty miles from the sea, there is an isolated patch of volcanic agglomerate and tufas, and a similar formation is found at the north-eastern corner of the district.

Eastward of the base of Mount Egmont there are few, if any, mountains worthy of the name, although there are many ranges varying in height from 1,000 ft. to 1,500 ft. above sea-level, and, in a few instances—such as the Matemateonga and Waiaria Ranges—they run up to 2,500 ft.

The principal river is the Wanganui, which bounds the district on the east between Tūmāranui and Pipiriki, a distance of about ninety miles. Its average width varies from 2 to 3 chains. For nearly the whole distance it is shut in by high precipitous hills, and in many places by perpendicular walls of rock. The scenery is very grand and beautiful. There are numerous rapids, but few of them are dangerous to skilful canoeists. A steamer runs regularly from Wanganui to Pipiriki, a distance of fifty-five miles. Another small steamer of light draught and considerable power has now been built. This is intended for opening up the tourist and trade traffic on the upper portions of the river between Pipiriki and Ohura, a distance of some sixty miles. A channel is now being engaged up the Tāngerākau River as far

as Putikituna, a distance of twelve miles. From this point a road (nine miles in length) is being constructed to join the Ohura (or East) Road at a point about forty-seven miles from Stratford, and in the middle of the Whangamomona Improved-farm Settlement, the settlers in which and surrounding blocks will thus have double communication, with Wanganui on the one hand and Stratford on the other. When the road is completed through to Auckland (say within the next three years) tourists can enjoy a trip up the Wanganui River as far as Ohura, then back, and up Tangaraku River across to Ohura Road, then on to Auckland, or back to Stratford, as they desire. The principal tributaries flowing into the Wanganui on the Taranaki side are the Whangamomona, at eighty-two miles; Tangaraku, at eighty-five miles; Ohura, at 114 miles; Ongarue, at 143 miles respectively from the Town of Wanganui.

The next river in size is the Mokau, bounding the district on the north. It is navigable for small steamers of 20 tons or 30 tons as far as the coal-mines, about twenty miles from its mouth, and for canoes as far as Totoro, twenty-six miles further up. Several outcrops of coal are found on its banks, and, as limestone is also present, the river is likely to become an important waterway of the district. The scenery on either side, although not on quite so grand a scale as may be seen on the Wanganui, is very beautiful.

The other large rivers are the Waitara and Patea. The former has its source about midway between the coast and the Wanganui River, in an easterly direction from Pukearue, between New Plymouth and the Mokau. It is about a hundred miles in length, and runs out at the Town of Waitara, some ten miles north-east from New Plymouth. There is a bar at the mouth, but steamers of 300 tons can enter safely in calm weather, and, although there are numerous rapids on its course, it is navigable for canoes for about ninety miles.

The Patea River rises in Mount Egmont, and, after traversing a tortuous course of about 110 miles, runs out at the extreme southern end of the provincial district. It has a bar-harbour, with a depth of 13ft. to 14ft. at spring-tides. Steamers of from 40 tons to 50 tons trade regularly to the town of Patea, which is situated a mile or so north of the mouth. The Patea is navigable for canoes for fifty miles.

Besides these rivers there are many smaller ones, and streams innumerable—in fact, no district in the world could be better watered and at the same time be so secure from disastrous floods. It is estimated that between the Mokau and the Patea there are no fewer than eighty-five named streams emptying themselves into the Tasman Sea, fully sixty of which flow from Mount Egmont.

Excepting the Ngaere Swamp, a block of open land near Eltham, 3,700 acres in extent, now partially drained and recently disposed of for settlement purposes, there are no plains, properly so called, in the district, although the stretch of very fertile country lying between the Waingungoro and Otakeho Rivers, comprising an area of about 25,000 acres, is known as the Waimate Plains. Of this area 13,500 acres have been disposed of, and the remainder, 11,500 acres, has been handed back to the Natives as a reserve.

There are no lakes worthy of the name. The largest sheet of water is Rotokare, situate about twelve miles from Eltham; it is about half a mile in length, with an average width of six chains. There are also a few small lakes inland from Waverley, at the southern end of the district.

The whole of the district, with the exception of a fringe of open country along the coast from Pukearue to Patea, averaging three miles in width, and containing about 250,000 acres, and some valleys at the north-eastern corner of the district, about 150,000 acres in extent, was originally covered with heavy forest. Estimating the area already cleared for settlement at 240,000 acres, it will be seen that there still remain about 1,754,000 acres under bush.

The larger timber is chiefly rata, rimu, matai, tawa, kahikatea, kohekohe, pukatea, rewarewa, hinau, with a few totaras scattered here and there. Among the smaller trees may be mentioned the kotukutuku or fuchsia, karaka, and mahoe.

As regards the timber industry, there are altogether twenty-two saw-mills, and the total quantity cut in 1897 was 10,092,000 ft., chiefly rimu (red-pine), kahikatea (white-pine), and matai (black-pine). Out of this, 1,377,000 ft. was used in the manufacture of butter-boxes and cheese-cases.

An area of 72,565 acres, measuring six miles on every side from the summit of Mount Egmont, has been set apart as a forest-reserve. At about three miles within the reserve the forest begins to get stunted; and at four and a half miles it gives place to low wiry scrub, which ceases at five miles, or an elevation of about 4,000 ft. At 5,000 ft. the moss ends; beyond this point to the summit the mountain is composed of loose scoria and lava.

A comfortable mountain-house has been built at an elevation of 3,200 ft. on the northern face of the mountain, at a distance of twenty miles from New Plymouth by the Junction and Egmont Roads. Eighteen miles can be driven over, and the remaining two ridden. This house is maintained by the North Egmont Forest Board of Conservators, and is open for the accommodation of visitors from the middle of December to the end of March in each year. The keeper acts as guide also. There are women's rooms at one end of the house, men's at the other, with large common living- and dining-room in the centre. Visitors provide and cook their own food; a small charge is made of 2s. if stay is for one night only; if for longer, then 1s. per night throughout the visit. Guide's fee for mountain, £1 per party. During the past season there were 335 visitors, remaining various periods of from one or two days to as many weeks, while the total number of visitors to the mountain was for the season 700. In fine weather, when the snow is off, the mountain can be ascended without risk.

The mountain can also easily be ascended from Stratford side, the return journey occupying about thirteen hours, including stoppages. Tourists can ride over the first twelve miles to a rough shelter-shed near the grass-line, altitude 4,325 ft.: time occupied, about three hours. Here the horses are left, and the remaining climb has to be done on foot: time required for fair walker, a good three hours, although, coming down, the distance can be done in two hours. 600 persons visited the mountain by this route during the season. Good hotel accommodation, guide, horses, and provisions, can be obtained in Stratford on reasonable terms. The return trip can be varied by visiting Dawson's Falls and Kendle's Cascade.

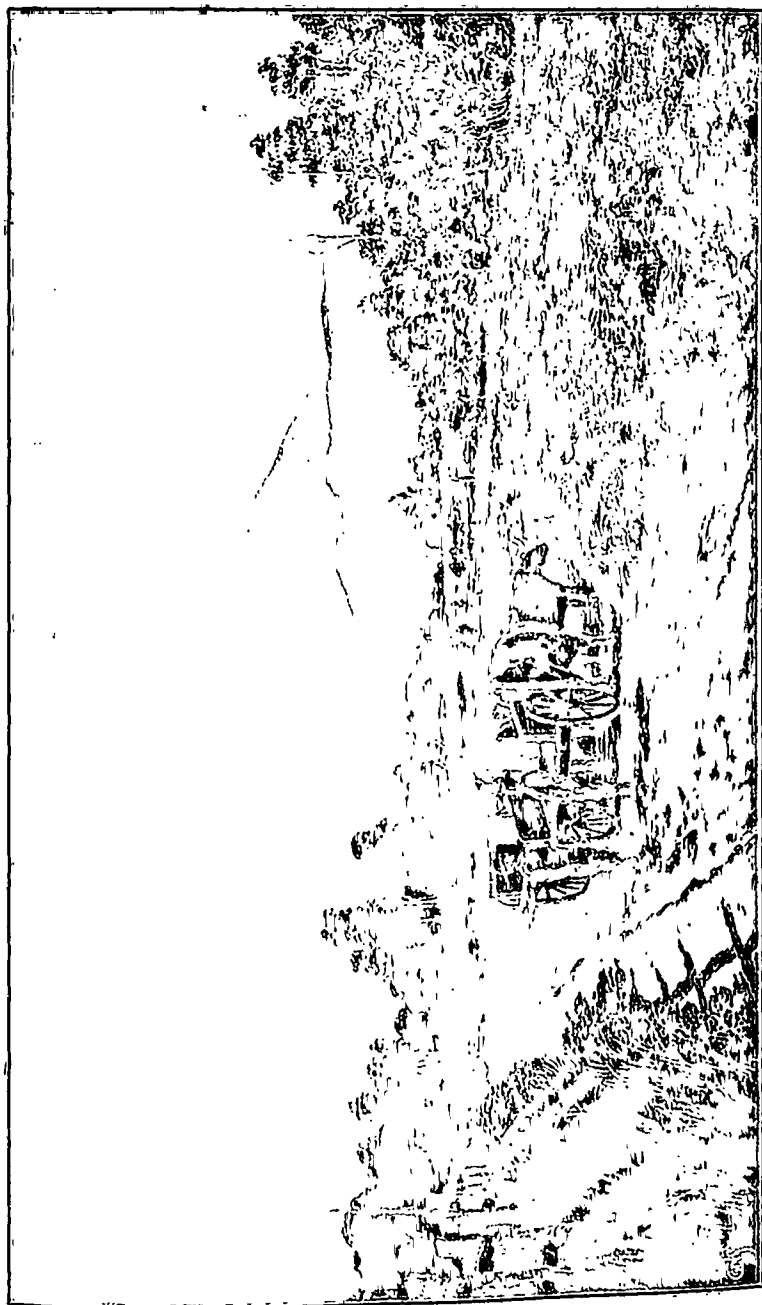
Another route now coming into favour is from Hawera or Eltham *via* Manaia or Kaponga and Dawson's Falls. At the latter place a comfortable shelter-house, capable of accommodating over forty people, has recently been erected, and is known as the Falls Mountain-house (altitude, 2,990 ft.). This house, which is close to the Falls (65 ft.), is within an easy two hours' ride of Kaponga. During the season the house is in charge of a caretaker, and food, bedding, horse-feed, and puddocking can be obtained. The number of visitors to Falls and mountain by this route is said to have been about a thousand for the season. From the house to top of Mount Egmont occupies a good six hours' climbing at a moderate pace. From the top, where the whole Taranaki District lies spread out to view at one's feet, the tourist can, instead of returning by same route, drop down to the mountain-house on the north or New Plymouth side of and 3,000 ft. up the mountain. The walk would not occupy over two hours, easy walking.

Soils.

The volcanic soil, the boundaries of which have been already described, varies a good deal in quality. The best is believed to be on the south side of the mountain, between Stratford, Hawera, and Opunake, but not less than two or three miles from the forest-reserve boundary. It is thought that the country now being opened to the north and east of the volcanic deposit—that is, the papa and limestone formation—will, from the presence of lime, be much richer and more lasting as pasture-land than that around the mountain. The carrying-capacity of the land is, on an average, three sheep to the acre.

Dairying, Grazing and Agriculture.

Taranaki is essentially a grazing and dairying district, its chief products being butter and cheese, the value of dairy produce exported from the Taranaki District during the year being £385,964. There are fifty-nine registered dairy-factories and forty-nine creameries scattered over the district, besides numerous smaller private



Mount Egmont, from Frankley Road.

ones of which we have no records. Of those registered, forty-two produce butter only, eleven combine butter and cheese, and six cheese only; seventy-five of the factories and creameries are proprietary companies, while the other thirty-three are run on co-operative lines.

In September, 1896, a new work in connection with the dairying and meat industries was started in the shape of the Taranaki Freezing Works. They are situated at Moturoa, near the breakwater, and close alongside the railway-line. Substantial buildings have been erected, and a railway siding laid down. The machinery consists of a "Paxman" compound surface-condensing engine of forty indicated horse-power, driving a "Livide" compressor, capable of freezing 400 sheep per diem: although up to the present time the company has confined its attention wholly to the freezing of dairy produce, 76,097 packages of butter and 8,651 cases of cheese having been sent from the works to the Home market, besides 1,827 packages of butter for the local and Australian markets. During the hot season the factories and railway-vans carrying butter have been supplied with ice from the works at a nominal cost.

Another somewhat similar industry has just been commenced at Fitzroy, called the Taranaki Bacon Factory. Substantial buildings have been erected, and a 6-horse power "Livide" machine fitted up, and the owner, Mr. Drake, has the works in full swing. The pigs are purchased from the farmers in the district and delivered at the styes in connection with the factory, where they are topped off with corn-feeding for fourteen days before being slaughtered. The number of pigs put through during past season (of eight months) was 1,575, weighing 214,102 lb., or an average of about 136 lb. each. The price paid for them was £2,800, or equal to 3½d. per pound. The hams and bacon exhibited by this factory have always taken first-class honours in the various agricultural shows. An industry like this cannot but prove of great assistance to settlers in the district, and should receive their most cordial support.

There are in the Taranaki Provincial District 17,202 horses, 211,158 cattle, 456,464 sheep, and 16,712 swine. These figures include all kinds and ages.

Agriculture has not hitherto been carried on to any great extent in this district. The total area under corn-crops and cut for threshing during season 1897-98 was 9,463 acres; corn- and grass-crops cut for hay, chaff, or ensilage, 8,370 acres; corn- and green-crops for feeding to, or down with, stock, 7,685 acres; sown grasses and clovers for feeding down, 620,193 acres; sown grasses for seed, 9,627 acres; potatoes, 2,435 acres; beet, 12 acres: total area under crops of all kinds, including gardens, orchards, vineyards, 659,381 acres. Plantations, 1,019 acres; fallow, 390 acres.

The average yield of different grain-crops in bushels per acre for season of 1897-98 is: Wheat, 39.24; oats, 46.41; barley, 46.87; rye, 36.27.

Mining.

The only mining going on at present is at the Mokau Coal-mine, which is situated on the Mokau River, about twenty miles from the sea, the river being navigable right up to the mine for vessels of 6 ft. 6 in. draught. This mine recently changed hands, and is now held by a Scottish company, known and registered as "The Mokau Coal-mines Syndicate (Limited)," which occupies under a sixty years' lease from the Native owners. The coal is of best class of pitch brown, and is rapidly gaining favour as an excellent household coal, and is also good for steam purposes. Eight distinct seams of this coal are already known, one overlying the other, and varying in thickness from 2½ ft. to 8 ft. The one now being worked is the fourth of the series, and 8 ft. thick, with a 6 in. band of slate in middle, but this band is rapidly running out. At the entrance to the drive, which runs some 15 chains into the hills on an upward incline of 1 in 24, and is laid with the usual light mining rails, on which the trucks are worked by horses, the altitude above level of the river is about 40 ft. The broken ground has now been passed through, and a face of 250 ft. of good sound coal exposed. It is proposed to sink on the lower seams to test their thickness and quality. Twelve men are at present employed, and the coal continues to improve. The output for 1897 was

3,148 tons. The operations of the company have been greatly hindered through loss of two small steamers at sea. Extensive improvements have, however, been made in the shape of new buildings, in relaying the lines with iron rails, and in pushing on the construction of a new air-drive, which is now finished and will be sufficient to thoroughly ventilate all the workings for years to come. The company hopes to have more steamers in the trade again shortly. A considerable amount of work has been done both by the Government and coal company in snagging and opening up the river for traffic, which must also prove of great advantage to the lands on both sides for miles above the mines. A signalman has been appointed at the entrance of the river. One or two fossickers are at work searching for gold near the old "Boar's Head" Claim, which was worked over thirty years ago, in the Patua Ranges, some sixteen miles south-west from New Plymouth.

After a lapse of many years, boring for petroleum has been resumed. A new bore was sunk at Moturoa, close to the former bore, and at a depth of about 875 ft. oil was struck in considerable quantity. After fully testing this well, it was found that it was impossible to "shut off the water" from below, which seemed to rise and fall with the tide, thus indicating the existence of some fissure or other means of inlet from the sea. The result was that only about two or three barrels, of 42 gallons each, could be got per day, the oil rising at intervals only, and all efforts to pump having continuously failed. The company then chose a site about half a mile inland, and sank a bore to the depth of 1,534 ft. without, however, obtaining any oil. A third bore, which is still open and cased, was then sunk about a quarter of a mile from the first, and in this gas in a great volume was struck at about 908 ft., followed at 910 ft. by oil in great quantity and of excellent quality. Unfortunately, this was struck in soft papa, and after about twenty barrels had been pumped, and when the company was beginning to sell and to export its crude petroleum, the supply suddenly ceased. The gas, which had previously issued in sufficient quantity to enable the company to dispense with other fuel, ceased at the same time. The most probable explanation of this mischance is that the soft papa, of which the roof of the oil-seam is composed, having been deprived of the support of the formerly imprisoned gas and oil, has collapsed, and thus choked the oil-seam lying in the vicinity of the bore. After further efforts to pump out the mud filling the bore, the company resumed drilling with the hope of obtaining another oil-supply at a greater depth. At 1,384 ft. oil was obtained in small quantities, and gas was thrown up in great volume. At 1,865 ft. the bore passed through the sedimentary papa rock and entered sandstone, which continued to the bottom at 1,976 ft., where a large quantity of oil and gas was struck. The bore was cased with 6-in. casing down to 1,379 ft., where a thin hard streak of sandstone was found embedded in the papa, and was taken advantage of to shut off the water from above; but, unfortunately, water was again met with below this, and as no other hard stratum was passed between that and where the oil was struck, it was found impossible to shut off the water, although a 5-in. casing was sent right to the bottom. Packing was also tried several times. Each time the packer succeeded in shutting off the water for a few days when oil was pumped at the rate of about eight barrels per diem; the sides of the bore around the packer, however, kept crumbling away each time, and the rush of water from above effectually prevented further pumping of oil, and the company was reluctantly compelled to abandon this their third bore, the plant being unequal to deeper boring. Undaunted by frequent failures, the plant was moved about 100 yards west, and a fresh bore commenced. This passed through similar but harder strata, and is now down 2,050 ft., with the plant still on the ground. During the year a new drilling plant was obtained from America. This has been erected on the Frankley Road, and is some four miles south-east of former workings. Drilling is now going on, and the bore is down some 220 ft. The company, having now two complete drilling plants on hand, with an experienced staff, is in a position, should the necessary capital be forthcoming, to thoroughly test the extent and value of the oil deposits of the district.

An enterprise like this, if successful, would enrich and give an immense impetus to the trade and importance, not only of the district, but also of the colony generally. Should the efforts now being made be abandoned through lack of capital,

it is unlikely that further steps will be taken for many years to further test the value of these deposits, of the existence of which there can be no doubt.

Ironsand is found in great abundance on the seashore from Mokau to Patea, a distance of 130 miles. It produces, when smelted, from 50 to 60 per cent. of iron of the finest quality. The first attempt to smelt this sand was made in 1848, and several trials have been made since, but the heavy cost of production and the absence of capital and modern appliances have, so far, retarded the industry. Strong efforts are now being made to remedy this by the introduction of outside capital, and it is hoped these will shortly be successful. A representative of an English syndicate is now on the ground making inquiries.

Climate.

The climate of Taranaki is remarkably healthy, without any extremes of temperature. Below is given a table of mean, maximum, and minimum temperatures in shade for each month of the year ending December, 1897:—

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Mean temperature	64.8	66.2	68.8	68.5	56.7	51.3	50.8	50.5	53.4	55.4	58.6	61.1
Max. temperature	82.0	82.0	80.5	75.0	72.0	69.0	68.0	67.0	67.0	69.0	71.0	77.0
Min. temperature	46.0	50.0	48.0	41.0	35.0	32.0	33.0	34.5	36.5	39.0	40.5	38.0

The mean barometric reading was 29.90 in. for the year. Total rainfall, 72.53 in. on 176 days, the maximum fall being 4.43 in. on 28th May. The rainfall varies considerably, as, for instance, at Norfolk Road, three miles south of Inglewood, the rainfall for the year was 120.65 in. on 200 days; the maximum fall was 5.75 in. on 28th May. The average rainfall at New Plymouth during the past four years was 67.54 in., and at Norfolk Road for same period 106.27 in.

Chief Towns.

The principal town of the district is New Plymouth (population about 4,100), situate on the seashore, about two miles from and to the north-east of the picturesque rocky islets known as the Sugar Loaves. The general appearance of the town is very attractive, and it abounds in neatly-kept gardens. The Recreation Grounds, from which a good view of Mount Egmont is obtained, form a favourite resort.

New Plymouth is 252 miles by rail from Wellington, the railway running in a northerly direction through the district from Patea to Sentry Hill, where it turns at right-angles westward for eight miles to New Plymouth. From Sentry Hill there is a branch line to Waitara, four miles distant.

The Port of New Plymouth is situated at the Sugar Loaves, two miles from the town. Protection for shipping is afforded by a concrete mole or breakwater running in a north-east direction for a distance of 1,900 ft. Under the lee of this there is wharf-accommodation provided for the coastal trade. Steamers of 1,000 tons can be berthed here in almost all weathers. The wharf is connected with New Plymouth by both rail and road. The breakwater was built at a cost of £200,000, borrowed under security of one-fourth of the land revenue of the Provincial District of Taranaki, and the right to levy a rate over certain lands. The present rate levied is 3d. in the pound on the capital value. The principal exports for the year (by sea and rail) were: General merchandise (mostly dairy produce), 4,742 tons; wool, 1,046 bales; hides, 1,187; grass-seed, 416 sacks; horses, 276; cattle, 3,107; sheep, 1,811; timber (by sea), 2,000 ft. Value of over-sea exports, and exclusive of coastal, £302,195. Imports: General merchandise, 10,440 tons; flour, 2,232 tons; grain, 2,108 tons; potatoes, 462 tons; coal, 3,515 tons; timber (by sea), 82,500 ft.; cattle, 20; vehicles, 10. Value of imports from over sea, and exclusive of coastal, £48,701. During the year 410 steamers and sailing vessels, of a gross tonnage of 107,916 tons, entered and left the port. The number of passengers to and from the borough was 11,676.

Manufactures in New Plymouth are represented by a sash-and-door, a boot, butter-keg, and three coach-factories, a brewery, a cordial, and also a patent stopper-factory, a flour-mill, tannery, fellmongery, bone-mill, and iron-foundry, with freezing-works and bacon-factory in the suburbs. The town has both water and gas laid on.

Hawera, the next largest town, is situate on the eastern edge of the Waimate Plains. The population is about 1,800. The Wellington-New Plymouth Railway runs close to it, the distance by rail from New Plymouth being about forty-eight miles. Hawera is surrounded by a first-class dairying and grazing country, capable of carrying a very large population.

The Town of Patea is situated on the coast, at the extreme southern end of the district, and has a population of about 750. There is a splendid grazing district inland, with a large area of land yet to be opened up. The principal industry is the canning, freezing, and boiling-down of meat. A dumping-plant has been erected by the Harbour Board. Exports for the year were: Wool, 5,872 bales; fungus, 111 bales; tallow, 988 casks; pelts, 302 casks; hides, 3,135; corn, 249 sacks; grass, 918 sacks; butter and cheese, 2,761 boxes; flax, 354 bales; tinned meats, 4,853 cases; bone-dust, 644 sacks; potatoes, 542 tons; sundries, 133 packages. Total value, £113,701. Imports: 6,452 tons of general merchandise; coals, 30 tons. Number of steamers in and out, 134.

Stratford, a comparatively young town, lies about midway between Patea and New Plymouth. It has already a population of about 1,300, and is growing fast. The height above sea-level is 1,000 ft., and the climate is bracing though somewhat moist. The main road to Auckland—known as the Stratford-Ongarue (now Ohura Road)—starts here. It has been formed as a cart-road for forty-seven miles, and as a bridle road to fifty-three miles. If the work is continued energetically, communication with Auckland should be opened up in about three years' time.

Waitara, a seaport town of 500 inhabitants, is situated on the river of the same name, a mile up from the sea, and about ten miles north-east from New Plymouth. The Mount Egmont Freezing-works have during the year dealt with and exported to London frozen meat, dairy produce, wool, &c., to the value of £71,672. These freezing-works possess two powerful Haslam freezing-machines, capable of freezing five hundred bullocks per month; they are also gazetted a Government grading and cool store, a great advantage to the outside dairy factories, whose butter thus avoids all risk of injury after grading. All produce is conveyed on board the New Zealand Shipping Company's ocean-going steamers (which anchor in Waitara roadstead) in specially-constructed and insulated bags.

The oversea exports for the year were: Frozen meat, 1,327½ tons; butter, 321½ tons; cheese, 294½ tons; wool, 2,405 bales; leather, 23 bales; tallow, 141 casks, besides sundries. Exports coastwise: Tallow, 312 casks; hides, 2,467; grain and grass-seed, 1,577 sacks; skins, 98 bales; fungus, 44 bales; potatoes, 298 sacks; chaff, 357 sacks; bones, 90 sacks; butter, 326 boxes; frozen meats, 252 cwt.; timber, 105,790 sup. ft.; general cargo, 437½ tons; cattle, 397 head; horses, 34; sheep and pigs, 133. Imports coastwise: Wheat, 580 sacks; grain, 1,375 sacks; grass-seed, 333 sacks; potatoes, 1,163 sacks; manure, 118½ tons; timber, 139,404 sup. ft.; coal, 2,590½ tons; lime, 136½ tons; sheep, 467; wool, 179 bales; hides and skins, 32 bales; fungus, 16 bales; general cargo, 2,451½ tons. Total imports, 5,826 tons; total exports, 3,766 tons. During the year 133 steamers and fifteen sailing vessels entered and left the port, their gross tonnage being 36,545 tons, while nine large ocean-going steamers anchored in the roadstead.

Inglewood, situated on the railway-line, sixteen miles south-east of New Plymouth, is a flourishing little town of some 680 inhabitants, rapidly coming to the front.

The only other towns of importance are Eltham, population, 600; Opunake, population, 400; Manaia, population, 480; and Normanby, population, 400.

Roads and Railways.

The chief means of communication is the railway from Wellington, which traverses the district between Patea and New Plymouth—a distance of sixty-six miles. Trains run every day between New Plymouth and Palmerston North—164 miles—and on Tuesdays and Fridays there are through trains between New Plymouth and Wellington—252 miles. The Main North Road runs from New Plymouth, passing through the Towns of Waitara and Urenui; it is formed as a cart-road as far as Pukerue, a distance of thirty miles. From here a horse-track

connects with the Mokau and Awakino Rivers, and from Awakino there is a track to Te Kuiti, in the Auckland District. At twenty-four miles and a half from New Plymouth and about three miles beyond Urenui a new main road is being formed up the Mimi Valley and over the main range east of Mount Messenger, thence down Tongaporutu Valley to near the sea, where it joins the old road. It is hoped that this road will be opened for traffic during the year, and although some eight miles longer than the other, it will always be available independent of tides. About midway between New Plymouth and Waitara on the above road the Mountain road diverges and runs almost due south, and chiefly along the railway, for a distance of forty miles, connecting with the Main South Road at the Town of Hawera. This is at present the principal road in the district, tapping, as it does, large numbers of district roads, and passing through the Towns of Inglewood, Midhurst, Stratford, Eltham, and Normanby.

The Ohura Road branches from the Mountain Road at Stratford. It is formed and open for traffic to Whangamomona Village, a distance of forty-one miles and a half, and a coach now runs twice a week in summer (Tuesdays and Fridays) between Stratford and Whangamomona, fare 12s. 6d. The dray-formation has been completed for some five miles further, but one or two small bridges require putting in before it can be opened for wheel traffic; horsemen can, however, ride twelve miles beyond Whangamomona without difficulty, and the road is now being extended into the interior so as eventually to connect with Auckland, and will open up a large area of fertile country.

The Main South Road from New Plymouth follows the trend of the coast to the south, and was at one time the coach-road to Wellington. It passes through the Villages of Omata, Oakura, Okato, Rahotu, Otakeho, Manutahi South, and Kakaramea, and the Towns of Opunake, Manaia, Hawera, and Patea.

The Junction Road runs south-east from New Plymouth, and crosses the Mountain Road and railway at Inglewood. It is formed and metalled for nineteen miles, and formed only for a further distance of thirty-two miles beyond this point, connecting with the Ohura Road at a distance of thirty-one miles from Stratford. This road crosses a number of district roads; hence its name.

The Opunake Road runs from Stratford to Opunake, twenty-six miles, skirting the southern base of Mount Egmont. It is formed and metalled for twelve miles from Stratford; the remainder is open for horse-traffic only.

The Eltham Road runs from Eltham to Opunake, twenty-five miles, connecting with the Opunake Road at Pūnehū, seven miles from Opunake. This is formed and metalled throughout.

The other main roads in course of construction are the Awakino Road, branching from the Main North Road at the Mimi; the Ruwhitiroa Road, leaving the Mountain Road near Eltham; the Waitotara Valley Road, starting from the Main South Road at Waitotara Township; and the Ōkaraoa, Moki, and Ōkoke Roads.

Crown Lands available for Settlement.

			Acres.
Crown lands available for settlement	...	...	520,723
Native lands undealt with	...	...	396,845
Total			917,568

Of the above, about 150,000 acres are open valleys and hills in the north-east corner of the district; a good deal of it more or less pumice-land, but still suitable for grazing. From the rest may be subtracted perhaps 10,000 acres for area absorbed by rivers, gorges, &c., and there remain 757,568 acres of forest-land yet to be dealt with. Of this area perhaps 50,000 acres, made up of strips of flats and terraces, may be suitable for agriculture; while the balance—707,568 acres—will be good pastoral land.

It may be said, in conclusion, that there is every sign of genuine prosperity throughout the district, which has advanced rapidly during the last few years, and will no doubt continue to do so.

HAWKE'S BAY LAND DISTRICT.

E. C. GOLD-SMITH, Chief Surveyor.

The Land District of Hawke's Bay comprises that portion of the east coast of the North Island from Cape Turnagain, in latitude $40^{\circ} 30'$, northwards to Lottin Point, about thirty miles beyond the East Cape.

It has a seaboard of 300 miles, with an average depth from the coast of forty-five miles, and embraces an area of 6,063,000 acres. Its western limit is defined by the Ruahine, Kaweka, Ahimanawa, Raukumara, and other high ranges that form the watershed between the rivers flowing through it to the sea, and those that run to the west coast and the Bay of Plenty.

Physical Features.

The Ruahine Range extends northwards for about sixty miles from the Manawatu Gorge as far as the valley of the Ngaruroro River. Its altitude varies from 3,000 ft. to 6,000 ft., and for a considerable distance its summit is snow-clad during the winter months.

The Kaweka, a shorter range, divided from the Ruahine by the Ngaruroro River, attains an altitude of 5,650 ft., is very rugged and steep, and a prominent feature in the landscape in winter, covered as it then is with snow.

From these two ranges, which fall very abruptly on the Hawke's Bay side, the land slopes gradually to the sea, forming in some parts fine rolling hills—the essence of a sheep-country—in others extensive plains, with comparatively little poor soil.

Northwards from the Kaweka there is a series of forest-clad ranges of varying height, stretching away in the direction of the East Cape. Hikurangi, the highest point, is a bold peak with an elevation of 5,606 ft., rising so abruptly on all sides that the ascent can be made only at one point, and that with difficulty.

The only lake in the district of any extent is Waikaremoana, so famous for its magnificent scenery. It lies about thirty-five miles inland of the Wairoa (Clyde), and is eleven miles in length, with a breadth at the widest part of about eight miles. Nestled among precipitous mountain-ranges, wooded to the water's edge, with numerous bays and inlets, it has a natural beauty hardly to be surpassed.

From Wairoa there is a formed road to within four miles of the lake, and for the rest of the way a good riding-track.

The principal plains are: (1.) The Ruataniwha, some fifty miles south of Napier. This is 120 square miles in extent, is for the most part occupied as sheep-runs, and carries a large quantity of stock. (2.) The Heretaunga Plain, with an area of ninety square miles, lying immediately to the south of Napier. This is rich alluvial land; a large portion is thickly settled, the remainder used for grazing and agriculture. The only other plain of any extent is at Poverty Bay. It has an area of sixty-five square miles, is very fertile, well cultivated, and bears a large population.

The land district is well watered throughout by numerous rivers and streams, but none are navigable except the Wairoa and Turanganui, and these only for vessels of light draught. They are both tidal, and serve as ports to the Towns of Wairoa (Clyde) and Gisborne.

Communication.

The chief outlets from Napier are three in number. First the Napier-Wellington Railway, which traverses the centre of the southern half of the district for its whole length of 100 miles, and may be called the main artery of communication. Parallel to it throughout runs an excellent gravelled road, which was made before the construction of the railway. On either side there are numerous branch roads, which act as feeders, making a very complete system of internal transit. Another main road runs in a westerly direction to Kuripapanga, distant forty-five miles, a favourite resort in the summer time, removed as it is from the heat of the country near the coast. A coach runs thither twice a week, and on thence to Inland Patea,

where the Napier Road meets the roads to Hunterville, Tokaanu, and, the Waunganui River.

The part of the district served by these two main lines—viz., that between Napier and Woodville—contains the greater portion of the population, and from the extent of arable land within it is likely in the future to be very thickly peopled. Notwithstanding that so much of the Native land in this part is unoccupied and in its natural state, there are nearly a million of acres of land in sown grasses, carrying 2,750,000 sheep and 80,000 cattle, and the population, inclusive of towns and villages, is about 36,000 persons.

The only main road northwards from Napier is the coach route to Taupo, which, soon after leaving the fertile Petane Valley, begins to traverse poor country, and twenty-five miles out enters the light pumice soil.

From Napier to the Wairoa the journey must be done on horseback, as there is a break of thirty-five miles between Tongoio and Mohaka unfit for wheeled traffic; but this is being gradually remedied. As a natural consequence, the traffic between these two places has to be done by small steamers.

From the Wairoa a main road runs northward, through the Village of Tiniroto and on to Gisborne, a distance of seventy-five miles. For a considerable distance it runs through hilly country, and, as it has not been gravelled, wheeled traffic is suspended during the winter months; but a coach runs weekly for nine or ten months out of the year.

Between Gisborne and Opotiki, in the Bay of Plenty, communication is not good. The road, which is 120 miles in length, has been formed only to the edge of the Motu Forest, a distance of fifty miles. In the neighbourhood of the forest a large area of Crown lands has been taken up and settled in the last two or three years. The rest of the journey must be done on horseback.

In the country north of Gisborne, formed roads for wheeled traffic are few in number, and not continuous; but small steamers trade regularly along the coast, calling in at Tolago and Tokomaru Bays, Waipiro, Tuparoa, Awanui, Kawakawa, and other small bays.

Pastoral Industries.

The Hawke's Bay District is pre-eminently a sheep-grazing country. The extent of land in sown grasses was, in 1897, no less than 2,151,233 acres, while 2,269,021 acres were in tussock or native grass. On the same date there were 4,242,698 sheep, 115,393 cattle, and 27,113 horses. The value of the wool exported from the district during the twelve months ending 31st March, 1898, was £1,135,581, and the quantity 33,163,981 lb.

Freezing-works are now established at Tomoana, Port Ahuriri, and Gisborne, and the export of frozen meat for the year ending 31st March, 1898, was 219,257 cwt., the value being £229,849. This industry gives employment to a large number of persons, both directly to those engaged in breeding, shearing, freezing, and shipping, and indirectly to those who labour at bushfelling, grass-seed sowing, fencing, and otherwise opening up new country. Nor must the cutting of the immense amount of firewood consumed at the works be forgotten. All this benefits the settler with limited means, by providing him with funds to improve his holding, and to this is due, in a great measure, the general prosperity.

Agricultural Pursuits.

Agriculture is not carried on to the extent it might be with so much land suitable for root- and grain-crops. No doubt this is due to the profits made in sheep-farming. It is chiefly confined to the Heretaunga Plains and the flat lands near Gisborne. The soil is favourable to root-crops; potatoes range from 12 to 15 tons to the acre, and in some instances exceed this amount. Only a moderate quantity of grain is grown; barley, for which the soil seems well adapted, returning from 20 to 60 bushels of good sample to the acre.

Dairying.

Settlers are now turning their attention to dairying, and lately factories have been established in the bush districts at Norsewood, Ormondville, Maharahara,

and Woodville, whilst several others are in contemplation. At the last-mentioned town a cheese-factory has been in existence for some years, and turns out an excellent article much sought after in other parts of the colony.

Timber Industry.

The timber industry is considerable, numerous saw-mills being in full work in different parts of the district. In the forest between Takapau and Woodville there are twelve, with an estimated yearly output of 10,000,000ft. This tract of forest is the one most used for milling purposes, and will yield a plentiful supply for a long time to come, notwithstanding that for years past a large amount of totara timber has been taken out of it to send to other parts of the colony. Further north there is no totara to speak of, though rimu, white-pine, and other milling timbers are to be found scattered throughout the forests, and in the Poverty Bay District puriri is found in some quantity.

Other Industries.

Other industries, such as fellmongeries, soap-works, boot-, coach-, and sash-and-door factories, &c., are established in the principal towns.

Climate.

The climate is generally of a mild character, and, though hot along the coast-lands in the height of summer, it is, owing to the dryness of the atmosphere, not so relaxing as in parts of the island farther north. The rainfall is light, excepting in the bush districts and high inland country.

Napier itself is recommended by many medical men as a resort for invalids suffering from pulmonary complaints, chiefly on account of the mildness of its winter season. During the year ending 31st December, 1897, rain fell only on eighty-nine days, the total fall recorded being 41.28 in., while the average rainfall for the last thirty-three years is 37.070 in.

Towns.

Napier is pleasantly situated on the peninsula known as Scinde Island, which is joined to the mainland by a narrow shingle-bank of several miles in length. It is a busy town, with a population of 9,400. The business part is on the flat land at the foot of the group of hills that take up the greater part of the peninsula. These hills, formerly barren and waste, are now occupied by numerous private residences, and the very general tree-planting has given the upper town a distinctive and pleasing character. There is an excellent water-supply, derived wholly from artesian wells of large size, and pumped by machinery to reservoirs on the tops of the hills. The shipping trade, as the large exports show, is especially active during the wool and frozen-meat season. It is at present carried on at Port Ahuriri, about a mile from the town; but will, before long, in a large measure be transferred to the fine break-water which is now advancing towards completion.

Gisborne, the trade-centre and port of what is known as the Poverty Bay District, is a prosperous town of about 2,500 inhabitants, rapidly increasing in size and importance, as the large quantity of unimproved land in the Cook County is fast becoming settled and made productive. There are nearly 760,000 sheep now in Cook County.

Clyde, the county town and port of the Wairoa County, is picturesquely situated on the Wairoa River, about three miles from the mouth. The river is navigable for small craft as far as the village of Frasertown, twelve miles further up.

With a few exceptions, the towns and villages to the south of Napier are all situated on the line of railway running from that city to Palmerston North. The principal are: Hastings, a rising town, of 3,300 inhabitants, Waipawa, Waipukurau, Dannevirke, and finally Woodville, about three miles from the Manawatu Gorge, and distant ninety-eight miles from Napier. It is at this end of the district that the Crown has, in the last few years, successfully planted settlement, and, in place of the continuous forest known as the Seventy-mile Bush of earlier days, there are now prosperous townships, with various thriving industries established.

Crown Lands.

The land held by tenants of the Crown, of whom there are 714 in the district, under the various systems of tenure, amounts to 453,274 acres, and there remain about 400,000 acres not yet dealt with in any manner.

The latter is, for the most part, suitable for pastoral purposes only, any fit for agriculture lying in small, isolated spots, widely scattered, and such as could not be selected independently of the surrounding inferior land. Nearly the whole is broken forest country, fitted more for sheep than cattle, and having an average carrying-capacity, when cleared, of about one sheep to the acre, though the best of it might possibly graze from two to three. The land is chiefly in the Hangaroa, Koranga, Mangaroa, Norsewood, and Motu Districts, and the back-country of the Waiapu County.

About 39,000 acres are now open for selection. In the Waiapu Survey District, near Waikaremoana, there are over 8,000 acres, also hilly country, of limestone formation. In the Motu District, between Gisborne and Ōpotiki, there are about 16,000 acres open, and in the Mata and Hikurangi Survey Districts, situated from fifteen to twenty miles inland from Waipiro, there are 13,700 acres of rough forest limestone country, at the present time not easy to get at; but a road to the block will shortly be put in hand. There are also 1,000 acres open in the Pohui District, about twenty-eight miles north of Napier.

Native Lands.

Of the Native lands in this district, a very considerable portion has been leased to Europeans, but there still remains in the hands of the Maoris a valuable estate, comprising both agricultural and pastoral country, and including some 800,000 acres of excellent land. This land lies for the most part in the Waiapu County, towards the East Cape.

THE WELLINGTON LAND DISTRICT.

J. W. A. MARCHANT, Chief Surveyor.

The Wellington Land District is bounded on the north by the Districts of Auckland and Hawke's Bay, on the west by that of Taranaki, on the east by the sea, and on the south and south-west by Cook Strait. The area contained within these limits is about 6,807,500 acres. It lies between the parallels of 39° and 41° 30' south latitude; its greatest length north and south is about 180 miles, and its mean width east and west about sixty miles.

General Physical Features.

The district is divided into two well-defined parts by a mountain range, which forms part of the backbone of the North Island. At its northern end this range—there known by the name of Ruahine, and averaging a height of about 4,000 ft.—divides Wellington from Hawke's Bay; but after passing the point where it is intersected by the Manawatu River, the range takes the name of Tararua for many miles, until, at about forty miles from the termination on the shores of Cook Strait, it divides into two main ranges, known respectively under the general names of Rimutaka and Tararua, both ranges averaging from 2,500 ft. to 3,500 ft. in height, the highest point being Mitre Peak, 5,154 ft. Parallel to the main range, and divided from it by the Wairarapa Plain and the undulating country to the north, is a series of ranges at a few miles inland from the East Coast, known as the Puketoi, Taipo, Maungaraki, and Haurangi Ranges. Lying on the northern border of the district are the Kaimanawa Ranges, offshoots from the Ruahine. They are for the most part open and grass-covered, rising to a mean height of about 4,500 ft. Westward from the latter mountains, and divided from them by a deep, broad valley, in which flow the Waikato and Wangaehu Rivers, is the volcanic chain of mountains containing Ruapehu, 9,008 ft., and Ngauruhoe, an active volcano.

7,515 ft. high. The long sweeping curve of Cook Strait, forming the south-western limit of the district, is bordered, from the Patea River to within thirty miles of Wellington, by a comparatively level and undulating country, now nearly all under cultivation, having an average width of about fifteen miles. This is one of the finest parts of the colony, and is celebrated for its stock-raising capabilities. It was originally in a great measure open, though the southern part, where the plain is narrowed in between the sea and the Tararua Range, has a good deal of forest on it, now fast disappearing under the axe of the settler.

Inland of this coastal plain, at varying distances from the sea, the country gradually rises to a mean height of about 1,500 ft. to 1,800 ft., and becomes a good deal broken in character. It was originally forest-clad almost throughout. It is much cut up by rivers and streams flowing from the interior to the sea, of which the principal, commencing from the north, are these: The Waitotara, the Wanganui, the Wangapehu, the Rangitikei, the Oroua, the Pohangina, and the Manawatu, which last, after leaving the gorge in the Ruahine Ranges, runs through level land to its mouth in Cook Strait. This broken country, being everywhere composed of papa, or marly formation, which takes grass excellently, promises in the near future to be a large sheep-carrying district.

At about fifteen miles south of the volcanic peaks of Ruapehu Mountain the papa country terminates in a fairly well-marked escarpment, giving place to a more level and undulating country formed of volcanic matter, the greater portion of which is forest-clad, though on the south-east, east, and west sides of that mountain there are open grassy plains, of no great fertility, but yet suited to pastoral pursuits.

To the eastward of the main range formed by the Rimutaka and Tararua Ranges is the great depression known at its southern end as the Wairarapa Plain, which gradually rises northwards from the lake of that name into wooded, somewhat broken country, of no great height, at a distance of some forty-five miles from the sea. From here the country falls again slightly to the Upper Manawatu River, the depression in this part being marked by the extensive flats in the neighbourhood of Pahiatua, and by the shallow valleys of the Mangahao, Mangatainoko, and Tiraumea Rivers and their branches. For thirty miles from the sea this great valley is mostly open, with patches of forest here and there, but becomes more plentifully wooded at the base of the Rimutaka and Tararua Ranges. The quality of the soil varies from light and stony, on the Wairarapa Plains proper, to rich papa country, as the northern end is approached. The southern end of this country is watered by the Ruamahanga River and its tributaries. Generally the district is a pastoral one, though agriculture is also pursued successfully. The neighbourhood of the Puketoi Ranges is in many places composed of limestone, and promises in the future to become a very rich pastoral district, such as will carry a considerable population. In the forks formed by the Tararua and Rimutaka Ranges the Hutt River takes its rise, and runs in a southerly direction through an undulating or level country, finally falling into Port Nicholson. The valley contains some very fine land, generally held in small holdings.

Plains.

The two most important of these have already been mentioned. On the eastern side of the main range the Wairarapa extends northward from the lake of that name for about forty-seven miles, with an average width of about nine miles. In some parts, especially on the flats along the Ruamahanga River, the soil is alluvial and rich; in others, though stony and unfit for cultivation, it is nevertheless grassed, and carries stock well in the winter and rainy seasons. The plain is watered by the Waiohine, Waingawa, and Ruamahanga Rivers, and contains altogether about 200,000 acres, much of which is good agricultural land. On the other side of the district, west of the Tararua and Ruahine Ranges, there is a large block of land so nearly level that it may be called a plain, extending from Paikakariki (thirty miles from Wellington) to Marton (a few miles north of the Rangitikei River), and contains about half a million acres. Starting as a narrow strip between the hills and the sea, the plain widens out by degrees until at Fielding it is at least twenty miles in breadth. Along the beach runs a fringe of sandhills, but behind this is to be found some of the best farming and grazing land in the colony.



Ngauruhoe, from Blue Lake Crater.

There are two plains inland—Murimotu and Waimarino—both lying some 2,200 ft. above sea-level, in the neighbourhood of Mount Ruapehu, the former to the south and the latter to the north-west of the mountain. The soil is covered with a coarse native tussock, and, though capable of carrying stock, is of a light porous nature, and cannot be classed as agricultural land.

Rivers.

First among these is the Wanganui—"the Rhine of New Zealand"—with a length of over 110 miles from its source, near Mount Tongariro, to its outlet. The Rangitikei, the next in size, rises in the Ruahine Mountains, and flows through the Awarua country, where it is joined by the Hautapu and other large tributaries. After a course of over a hundred miles it reaches the sea some little distance below the Township of Bulls, on the West Coast. The Manawatu is third in importance. Rising in the Ruahine Range, it flows through the picturesque Manawatu Gorge, joining the sea at the port of Foxton. Lesser rivers on the West Coast are the Waitotara (north of Wanganui), the Wangaeu (which takes its rise in Mount Ruapehu, and from its source to its mouth is so strongly impregnated with sulphur that fish cannot live in it), the Turakina, and the Otaki. The only other rivers of any size are the Hutt (Heretaunga), emptying itself into the Wellington Harbour, the Ruamahanga, flowing through the Wairarapa Valley and lakes into Palliser Bay, and on the East Coast the Pahoa, Aohanga, and Akitio.

Lakes.

The only lake of any size in the Wellington District is the Wairarapa, lying between the Rimutaka and Haurangi Ranges, towards the southern end of the Wairarapa Valley. It is about twelve miles long and four broad, and is connected by the Ruamahanga River with Onoke, a small lake separated from Palliser Bay by a narrow shingle spit only. A passage through the spit is opened from time to time when the lake rises above its natural level and overflows the low-lying flats along its margin. Water-fowl of every kind—among them numbers of black swans—are to be found round about these lakes.

Scenery.

The views obtained from the railway-line in the ascent and descent of the Rimutaka Range are among the best in the neighbourhood of Wellington, and the road through the Forty-mile Bush was long considered one of the most beautiful drives in the North Island; but much of its pristine beauty has been destroyed by the felling of the bush consequent on the increase of settlement. The same may be said of the Manawatu Gorge, famed in the old coaching days for its lovely scenery, but now sadly marred by the construction of the railway-line. The most beautiful drive now left is through the Awarua Bush, from Ohinguiti to Mowhango. From this road, as it winds round the spurs, most charming glimpses are obtained of the Rangitikei River and the blue hills beyond, and at other points the traveller looks up deep ravines where the graceful fern-tree stands out in bright relief against the dark green of the native bush. Another road from Pipiriki, on the Wanganui River, to the Murimotu Plain, traverses one of the most magnificent forests in the North Island. Here the bushman's axe has felled only the timber standing on the road-line, and the track runs beneath the shade of the largest and stateliest maire and rimu known. Beautiful as these drives are, the scenery on the Wanganui River is still more lovely. A few miles below Taumaranui the river enters a series of gorges, shut in by high precipitous cliffs. Sometimes the canoes glide slowly through quiet reaches, sometimes shoots rapids which make the traveller hold his breath till they are passed, and then again traverses places where the water is ever in turmoil, boiling and eddying in whirlpools, taxing the energies of the most skilful Native steersman, and testing the nerve of the most courageous tourist. These experiences, with the views obtained of the banks, densely wooded even where the papa rock rises almost straight from the water's edge, make the eighty miles journey from Taumaranui to Pipiriki an event not easily effaced from the memory. Between Pipiriki and Wanganui an excellent steamer is now running, so that the beauties of the lower part of the river may be seen by all without trouble or discomfort.

Forests.

The Wellington District is essentially a forest country, for out of the 6,807,500 acres contained within its borders 3,400,000 are still under bush. By far the largest forest is the Waimarino, having an area of at least three-quarter million acres, a large portion of it being nearly level land, containing magnificent timber, principally totara, maire, matai, rimu, and other pines. This forest is as yet hardly touched, though one sawmill has lately been started at Raetihi to cut timber for the settlers now making their homes in the neighbourhood. The distance from the settled districts or any port will render the timber in this part useless as a marketable commodity until the country is opened up by the proposed Auckland Main Trunk Railway.

The next in size is the Rangitikei-Hautapu Forest, containing an area of about 400,000 acres, a considerable portion in the Awarua Block being first-class milling timber, which will be available as soon as the extension of the Hunterville Railway-line taps it. Between this and the Waimarino Forest there is a large extent of bush land, drained by the Turakina, Mangamahū, and Wangapehu Rivers, extending up to the Wanganui River, and containing about 350,000 acres. Very little of this, from its inaccessibility, will be utilised for saw-milling purposes, but a great deal of it, together with a further block of 230,000 acres on the west side of the Wanganui River, will be cleared by the settlers and sown down with grass. A further block of about 100,000 acres of forest-land lies in the Pohangina Valley and on the slopes of the Ruahine Range. A large portion of this has been taken up and is now being settled.

The forest-land on the West Coast extends from Pukerua to the Manawatu Gorge, on the west side of the Tararua Range, and contains an area of about 380,000 acres, the bulk of it being fit only for turning into pasture. The most available part of it, alongside the Wellington-Manawatu Railway, is being extensively cut into by sawmillers at Levin and other places on the line.

After this in size is the forest commonly known as the Forty-mile Bush, containing 260,000 acres. It lies immediately north of Masterton, and is tapped by the Wairarapa Railway and the extension to Woodville. It is at present being quickly denuded of timber by the sawmills established at Eketahuna and Pahiatua, and by the increasing number of settlers. A tract of fully 100,000 acres lying to the east of the Puketoi Range cannot be utilised for milling purposes, as it is not tapped by any branch railway-line, and its distance from the main line would render the business unprofitable. Nor are there any suitable ports along the coast where timber could be shipped.

The other forests are, one near Lake Taupo, the Wairarapa-Tararua Forest on the east side of the Tararua Range, and its continuation on both sides of the Rimutaka Range, and the Haurangi Forest on the east side of the Wairarapa Lake. These consist for the most part of birch-covered hills, and cannot be considered as valuable for milling purposes.

Soil.

It may be said that the Wellington Land District contains within its borders a greater quantity of good land than any other in the North Island, very little, except the mountain-tops, being unfitted for use, while some of it is of very superior quality, suited for the growth of the productions of every temperate climate. As much of it is still forest-clad, settlers must look forward to having to make their farms by felling and burning the bush before grass can be sown, and, as it takes from ten to fifteen years before the plough can be used in bush-land, grazing, for which the climate and soil is admirably adapted, will be the principal industry for some time to come. It is generally calculated that the cost of felling and burning ordinary bush varies from 25s. to 35s. an acre. To this must be added about 20s. for seed and fencing. It is no uncommon thing for a return to be received at from twelve to eighteen months after felling. The usual practice is to put sheep on to the new lands soon after the grass has obtained a good hold. The process of improving the lands by the gradual "logging up" and burning of the fallen tree-trunks is a long one, but it pays in the end, for in this way fine pasture-lands are obtained on the hills, and agricultural lands on the flats.

Climate.

The climate of Wellington District is healthy and mild, the mean annual temperature (in the city) being 55·4, whilst the mean rainfall is 48·49 in. per annum. The rainfall differs, however, according to locality. Inland and near the ranges it is much greater. The top of Ruapehu Mountain is covered with perpetual snow, which lies also on the tops of Kaimanawa, Ruahine, and Tararua in the winter. Frosts are heavy in the interior.

Harbours and Ports.

The coasts of Wellington are not so well supplied in this respect as are some other parts of the colony; but what is lost in number is made up in a great measure by the excellence of the chief haven—Port Nicholson—which, from the position it occupies, at the meeting-point, as it were, of the coastal traffic of both Islands, and from its sheltered position and depth of water, may be considered one of the most convenient harbours in the world. The Wanganui River, which has been considerably improved by artificial means, is the second port in the district, and has a considerable trade carried on by coastal steamers. Patea and Manawatu Rivers are also used by coastal steamers, whilst several other places along the shore afford shelter and stopping-places, according to the direction of the wind. The extension of railways along both coasts has, in a large measure, done away with the inconveniences arising from want of harbours.

Towns.

The capital of the colony—Wellington—is situated in the south-west angle of Port Nicholson, on Lambton Harbour. The wharfrage accommodation here is second to none in the colony, and the wharves present always a busy scene of life with the numerous steamers and sailing-vessels continuously loading or discharging. As many as four ocean-going steamers are not unfrequently seen alongside, loading with wool, frozen meat, and other products, for conveyance to Europe. The port possesses a patent slip at Evans' Bay, within a short distance of the city. Founded in 1840 by the New Zealand Company, the city occupies the flats skirting the original shore-line, long since obliterated by the reclamation of the foreshore, which is now mostly covered with fine buildings. Rising close behind the old shore-line is a range of hills, the lower parts of which are all built over. The population of the city at the present time is about 40,220. Being the seat of Government, it contains the residence of the Governor and the head-quarters of the Government departments, which are placed in what is said to be the largest wooden building in the Southern Hemisphere. There are several noticeable public buildings, amongst which must be mentioned the Parliamentary Buildings, containing a valuable library, General Post Office, Government Life Insurance Offices, Public Library, School of Art, and Harbour Board Offices. The Colonial Museum, under the management of Sir James Hector, and the Botanical Gardens, are also worthy of notice. The city is lighted by electricity, and its streets are well kept and clean, whilst an excellent supply of water is obtained from the Wainui-o-mata River, on the other side of the harbour. The principal industries are represented by iron- and brass-foundries, factories, sawmills, soap-and-candle works, boot-factories, aerated water, meat-freezing works, coach-building, rope-and-twine works, sash-and-door factories, brick-, tile-, and pottery-works, besides a match-factory and innumerable other smaller works of various kinds. The city is increasing with rapid strides; its excellent position, together with the fine back-country, places it in the front rank of New Zealand towns. Its principal suburbs are Onslow, Melrose, and Karori, each containing from 1,000 to 2,000 inhabitants.

The Township of Petone is situated near the mouth of the Hutt River, seven miles from Wellington, on the railway-line. It has a population of 3,200, and is a rising township, containing the Government Railway Workshops, a woollen factory, and a meat-freezing establishment. The Lower Hutt, almost immediately adjoining, has also a large population, and some well-built residences with beautiful gardens. The Upper Hutt, situated at the head of the valley, has many small farms, owned by some of the very early settlers. The railway here starts the ascent of the Rimutaka Range.

Featherston, situated at the foot of the Wairarapa Valley, fifty-one miles by rail from Wellington, is a small township, with butter and cheese-factories in the neighbourhood. Roads lead from it to Martinborough and the East Coast, and also down the Wairarapa Valley to Palliser Bay.

Greytown North is situated three miles off the main line of railway, and near the middle of the Wairarapa Valley, fifty-three miles from Wellington. The chief industries are saw-milling and coachbuilding. The population is 1,127.

A few miles further north is the Town of Carterton, where are to be found timber-mills, cheese-factories, &c., and a population of 1,300 persons. There is some splendid farming land in this locality on the banks of the Ruamahanga River.

Masterton is situated at the head of the Wairarapa Valley, on the Wellington-Eketahuna Railway, sixty-seven miles from the capital. It is the centre of an agricultural and pastoral country, and has a population of 3,800. It is lit by gas, and has several industries, such as fellmongery, rope-making, flax-mills, coach-factory, &c., and, in addition, has some excellent fish-breeding ponds, from which many of the rivers in the colony have been supplied with trout. An important coach-road leads from here through a fine pastoral district to Tinui, and on to Castlepoint on the East Coast, where a large quantity of wool is annually shipped to Wellington for export.

North of Masterton is the Opaki Plain, and beyond is the entrance of the Forty-mile Bush, which is now fast becoming a thriving pastoral, agricultural, and dairying district. Butter-factories have been established at Hastwell and Mauriceville, where a large number of Scandinavians are settled, forming hard-working and thriving communities.

Eketahuna is, by rail and road, ninety-four miles from Wellington. From there a main road leads to Alfredton, and up the Tiraumea Valley. The road is in process of extension through the East Puketoi country, now being opened up in farm-homestead settlements, and will eventually lead to Weber and Dannevirke, on the Napier Railway-line.

Pahiatua, a rising township about fifteen miles beyond Eketahuna, has a resident population of 1,200. It is the county and market-town of a large and improving district, and will probably also become the centre of a large dairying industry. Coaches run daily from Eketahuna through Pahiatua, and eleven miles farther on to Woodville, where they connect with the main railway-line. Several branch roads run from Pahiatua into the adjoining country, the principal one leading to Makuri through a beautifully-wooded gorge. From there another branch road passes over the Makuri saddle into the East Puketoi country.

On the West Coast, Pahautanui, at the head of the Porirua Harbour, is the centre of a small agricultural community of early settlers, the old coach-road to Paikakariki running through it; and there is a branch-road leading over to Hayward's in the Hutt Valley. Paikakariki, twenty-seven miles from Wellington, may be considered the commencing-point of the West Coast settlements, which are springing up in every available valley along the coast. At Otaki, forty-seven miles from Wellington, by rail and road, there is a small township, and a large Native settlement. At Manukau, Levin, and Shannon, small townships have arisen since the Manawatu Railway Company opened up the land round about, much of it being rich farming and grazing country. Between Shannon and the Manawatu River there is a large raupo or flax swamp, named Makuraru, containing at least 15,000 acres of fine alluvial soil, which is being gradually drained by the company, and will probably at some future period become grazing-land.

Foxton, a township at the mouth of the Manawatu River, is a small shipping port, containing about 1,100 inhabitants. It is connected with Palmerston by a branch railway, and is the outlet for a large area of good agricultural land.

Palmerston North is an inland town at the junction of the Wellington-New Plymouth and the Palmerston-Napier Railways, situated on a fine plain in the midst of a most excellent farming district at a point eighty-eight miles from Wellington, and 110 miles from Napier. Its population is now upwards of 6,200. It is lit with gas, and has a good water-supply. A fine bridge across the Manawatu River connects it with the Fitzherbert Block, a tract of rich agricultural land. Nine

miles from Palmerston is the Township of Ashurst, at the mouth of the Pohangina Valley, up which settlement has now extended for a distance of twenty-two miles. Several large farm-homestead association blocks have been selected up this valley.

Feilding, 104 miles from Wellington by rail, with a population of 2,150, is becoming one of the most important towns on the West Coast, as it is the centre of a very fine locality, and the outlet for a large tract of inland country, the forest on which is fast being felled. A coach-road connects it with Birmingham and Pemberton, about thirty-two miles distant. On the seaward side for a distance of twenty miles there is also much good agricultural land, extending on the north-west to the Rangitikei River, and including the Township of Halcombe. There are several dairy factories established in the neighbourhood.

Marton, 123 miles from Wellington by rail, with a population of 1,200, one of the earliest of the West Coast settlements, is also the centre of an agricultural country. The Township of Bulls, on the north side of the Rangitikei River, lies between Marton and the coast. From Marton Junction the southern part of the North Island Main Trunk Railway extends up the Rangitikei Valley to Huntville, a good-sized township in the centre of a grazing district, and from thence as far as Mangaonoho, twenty-three miles from Marton; from there a coach-road has been made to Ohingaiti, beyond the Makohine, where a large viaduct has to be built before the railway-line can be continued. From Ohingaiti the coach-road has been made to Turangarere, and from thence to Tokaanu, on Lake Taupo, in the Auckland District.

Wanganui, situated near the mouth of the river of that name, is the oldest town after Wellington, from which it is 151 miles by rail—the distance by sea being only a hundred and twenty miles. It is the centre of an excellent farming district, and has a considerable trade, and several manufactories. Near the mouth of the river are freezing-works, the meat from which is conveyed by lighters to the large English steamers lying off the mouth of the river. The town is lit with gas, and has a good water-supply. Not far from it are some extensive railway workshops. Altogether it is a thriving place, with a population of about 6,400. The Wanganui River is navigable for a light-draught steamer up to Pipiriki, a distance of fifty-six miles, and for canoes a further distance of eighty miles to Taumarunui. A branch road extends from Pipiriki through the Waimarino Forest to Ohakune, and on to Karioi on the Murimotu Plains, thence by way of Turangarere and Moawhango to Napier.

Crown or Native Lands available for Future Settlement.

On the east side of the Wairarapa Lake there are 43,000 acres, known as the Dry River-Haurangi Block, but most of this land can be considered only third-class pastoral country. It has not been opened for sale yet, owing to the difficulty of getting proper access into it.

White Rock Block.—An area of 10,700 acres of second-class pastoral land in the White Rock Block, situated in South Wairarapa, lately withdrawn from sale, will shortly be more fully explored, &c., with the object of re-offering when a new scheme of subdivision has been approved by the Land Board.

Kaitangata, Te Mara, and Kaiparoro Blocks.—These blocks, containing about 58,000 acres of second-class pastoral country, were opened for sale in September, 1893. The lower portions have been taken up and are being settled on, but the balance of the blocks, to the extent of about 35,000 acres, has lately been withdrawn from sale, with the object of having this area more fully explored, back lines laid off, road access provided for, &c. The remaining unsold portions of these blocks will be re-offered when a new scheme of subdivision has been approved by the Land Board.

Dannevirke Centennial Block.—Thirty-two sections, of an area of 6,400 acres, have been withdrawn from sale in this block, as it is intended to re-offer them shortly, grouped into larger and more suitable holdings. It has been found that this block is not suitable for 200-acre selections.

Rangiwaea Block.—This block consists of about 10,800 acres near the end of the formed portion of Hale's Track, lying north-west of Ruamui Station, between the Turakina and the Wangapehu Rivers. This country, although hilly, is believed to be fair country for settlement, and is being subdivided into sections of from 105 acres and upwards, which will shortly be offered.

Tauakira Block.—Situated near Athens, on the Wanganui River; about 26,700 acres. This consists chiefly of country suitable for second-class pastoral occupation, in areas of from, say, 1,000 acres and upwards.

Mangapapa Block.—This block is situated on the east side of the Waitotara River, and contains land suitable for pastoral purposes. The area is about 5,800 acres.

Town Land.—Further sections in Raetihi, Ohakune, Taihape, Makuri, and Levin Townships will probably be opened for sale at Wanganui, Pahiatua, and Wellington on dates due notice of which will be given in the local papers.

About 20,000 acres, known as the Retaruke Block, on the Wanganui River. It is proposed to open this under the small grazing-run system during next summer.

Awarua Block.—Portions of this block comprising Subdivisions 3a No. 2A, 5,390 acres, and 3d No. 2, 2,000 acres, are now under survey, and will probably be offered for selection in a few months.

Forfeited Farm-homestead Sections.—A large number of farm-homestead sections which have reverted to the Crown in the different Association Blocks in the Wairarapa North and South, Rangitikei, Wanganui, and other counties, are now being prepared for sale, and will be re-offered at early dates under the optional systems of the Land Act.

Due notice of these dates will be given in local papers, and sale lithos, with full particulars, will be published.

Improved-Farm Settlement Lands.

All the available land suitable for holding under the improved-farm conditions has now been allotted, but if any of the sections now held under this system should be forfeited, they will probably be ballotted for amongst applicants in the district who are known to be of good character and likely to make good settlers. If further blocks of suitable land for this system are found, they will be cut up and opened on the same conditions.

Lands Open and Available for Ordinary Selection.

Awarua Block.—Out of the Awarua Block, lying north of Ohingaiti, several blocks, containing over 140,000 acres, have lately been purchased from the Natives by the Crown. A great deal of this land is of first-class quality, though other parts will be treated as second-class land only—not that the soil is inferior, but because the land is too broken to be worked otherwise than as pastoral country in good-sized holdings. Several blocks have been surveyed; one of 15,000 acres west of Mangaweka, or Three-Log-Whare Township, was opened for sale in 1895, and subsequently another, of 7,500 acres, between the Hautapu and Rangitikei Rivers. A further sale of quarter-acre sections in the Mangaweka Township has taken place, and the Taihape Township will be subdivided into town or suburban lots, of which some will be offered for sale. A block of 12,500 acres lying south-east of Mouwhango was opened for application, and this has all been taken up. Further purchases in the Awarua Block, to the extent of about 97,000 acres, have been made, the surveys are being put in hand, and the bulk of the country will probably be opened for selection during the next twelve months.

North of the Kawatau, on the east side of the Rangitikei, a block of 17,173 acres of second-class pastoral country was opened for selection, 4,866 acres of which are still open for sale.

An area of 2,055 acres in No. 2c, No. 1 Block, remains open for selection under optional systems.

Waitotara.—The Te Ngaue Block, 1,546 acres of second-class pastoral land, is now open for selection.

Waimarino.—Three blocks, containing about 10,000 acres, have had road-lines laid out through them, and are now open for application. A further block of about 46,550 acres, on the Retaruke, Oio, and Kaitieke Rivers, has had roads surveyed through it, and is now open for selection. There is an additional block of 27,000 acres, which is being surveyed, and will be offered as grazing-runs. 32,000 acres at the head of the Retaruke and Makino Streams have also been roaded. The

rest of the Waimarino country, containing about 250,000 acres, is more or less broken, and will probably be opened as second-class pastoral country or small grazing-runs, to enable it to be taken up in larger sections.

Kaiwhatu Block.—An area of 2,710 acres of unsurveyed land at 5s. per acre lies open for selection under optional systems. This block is situated at head of Kaiwhatu River.

A large number of forfeited Farm-homestead Sections are now open for selection in the following blocks: Gladstone, Hunterville Nos. 1, 2, and 3, Sommerville, Palmerston North Knights of Labour, Marton Nos. 1 and 2, Pohangina and Umutoi, Delaware, Onslow, Pahiatua Nos. 1, 2, and 4, Masterton Reform, Christchurch, Woodville, Mecalickstone, and Waiwera.

Pipiriki Township.—Leases of twenty-seven allotments for the term of twenty-one years, with right of renewal for a further term of twenty-one years, are open for application by tender.

Wharangi (Foxton Sanatorium).—Leases of twenty-six allotments for the term of fourteen years are open for application by tender.

Paparangi Settlement (Johnsonville).—Leases of eleven allotments are open for selection.

Tongariro, Rangipopo, and Kaimanawa Blocks.—105,000 acres have been acquired by the Crown, but none of it is likely to be taken up for settlement for a long time to come.

"Crown Land Guides" and sale lithographs, giving full particulars of lands open for selection in this Land District, will be forwarded to any one on application to the Commissioner of Crown Lands, Wellington.

Native Lands.

Townships are now surveyed at Pipiriki and Tokaanu, sections in which are open for leasing under "The Native Townships Act, 1895."

The allocation of the Crown's purchases in the Raetihi, Tauakira, Maungakaretu, Mangapapa, Raketapauna, Rangiawaea, and Ngaurukehu B. Blocks, has been made by the Land Court; and the surveys of the land allotted are in hand, and they should be available for settlement soon after the surreys are completed.

The blocks under lease to Europeans contain about 475,000 acres, the principal being the Murimotu, Rangipowaiau, Owhaoko, Mangohane, and Ruanui, occupied by Mr. Studholme; and the Oroumatua, leased to Mr. Birch. Of others passed through the Native Land Court there are about 526,000 acres which are fit for settlement, the principal being the balance of the Awarua and the Motukawa, Raketapauna, and Rangiawera Blocks in the central district, Raetihi in the Waimarino district, Tauakira, and Ohotu, on the Wanganui River. Those not suitable for settlement at present are the Te Hauto, Ohuanga, and Kaimanawa, on the east side, and the Oshukura on the west side, of Tongariro Mountain, containing an area of about 345,000 acres.

The Native lands which have not passed the Native Land Court contain an area of about 140,000 acres, the principal being the Tupapanui and Morikan Blocks, between the Wangaeahu and Wanganui Rivers, and some others on the west side of the latter river.

Pastoral and Agricultural Industries.

The pastoral industry is by far the more important, the total area in grass in 1898 being 2,153,033 acres as compared with 87,594 acres under crop. Of the area in crop, 13,142 acres were in wheat, 19,705 in oats, and 32,154 acres in turnips or rape, the rest being in potato or other crops.

The following figures will show the average return per acre of grain, for the year 1898: Wheat, 25.25 bushels; oats, 28.68 bushels; barley, 35.22 bushels.

The area in sown grass now exceeds that in any other district in the colony, though the area under crop is very small as compared with either the Otago or Canterbury Districts. In 1897 there were 3,952,984 sheep; and in November, 1897, the cattle numbered 244,731, and horses 89,552. The total area in gardens is given as 2,129 acres; in orchards, 3,769 acres; and in plantations, 3,830 acres.

Dairy Industry.

Both soil and climate are well adapted for the production of butter and cheese, and hence we find creameries and butter-factories increasing in number very considerably each year, and the export constantly augmenting.

Eighteen butter- and cheese-factories were returned in April, 1896, as at work in the Wellington Provincial District.

Phormium Tenax.

The principal flax-mills working are at Featherston, Carterton, and Martinborough, in the Wairarapa, and at Foxton on the West Coast. This industry fluctuates greatly, in accordance with the price ruling for the dressed article. In 1896 thirteen mills were at work, employing 207 men and 35 boys; the machines driven by water-wheel or engine working up to 124-horse power.

Timber Industry.

Sawmills are to be found in different parts of the district where the means of communication are sufficient, the timbers cut being principally totara and red pine, both of which are largely used in house construction and other works. Others of the native woods are very beautiful, but are utilised only to a small extent.

The principal mills are at Pahiatua, Eketahuna, Masterton, and Carterton, in the Forty-mile Bush and Wairarapa districts, and at Levin on the West Coast, besides which there are several mills in Wellington for dressing the rough material. In the whole district there were in 1896 sixty-four mills, of an aggregate of 1,117-horse power, engaged in this industry, employing 975 hands, the output of sawn timber being 34,605,504 ft., and the total value, including posts and rails, resawn timber, doors, sashes, &c., £157,107, which, next to Auckland, is the highest for any provincial district in the colony.

THE MARLBOROUGH LAND DISTRICT.

C. W. ADAMS, Chief Surveyor.

Boundaries.

The Marlborough Land District, occupying the north-east corner of the Middle Island, and containing about 2,560,000 acres of land, is bounded generally on the north and east by Cook Strait and the East Coast as far as the Conway River; thence by that river to its source; from this point, by straight lines, rivers, and the summits of watersheds to the western side of Tennyson Inlet, Pelorus Sound. From the Conway to Pelorus Sound it abuts on the Land District of Nelson.

The widest part of the district is from Cape Campbell to Tophouse, a distance of about sixty-seven miles, and the extreme length from Cape Jackson to the Conway is 120 miles.

Physical Features.

The district throughout is generally mountainous, but none even of the highest peaks are covered with perpetual snow, although Tapuaeunuku, the highest of the Inland Kaikouras, attains an altitude of 9,462 ft. Of the Seaward Kaikouras, or Looker-on Mountains, the highest points are Kaitarau and Whakari, which are 8,700 ft. and 8,500 ft. respectively. There are several lesser peaks, from 4,000 ft. upwards.

The view from Kahautara Bluff, south of Kaikoura Settlement, looking northwards, when the Looker-on Mountains are snow-capped, is said to be one of the finest in New Zealand.

Geologically, the district may be briefly described as follows: North of the Wairau River the rocks belong chiefly to the Upper and Lower Devonian series, with a belt of Silurian between them, embracing the country along the west of Queen Charlotte Sound to Cook Strait. Within these series auriferous deposits

are found, and at present worked at Mahakipawa, Wakamarina, and Wairau Valley. In Endeavour Inlet an antimony-mine has been worked for some time. The country south of the Wairau River may be said to belong chiefly to the Carboniferous Age, with patches, along the coast and up the Clarence Valley, of Cretaceous-Tertiary and Lower Greensand formations; while along and between the Awatere and Clarence Rivers volcanic formation and numerous intrusive dykes occur. The Red Hills also, at the head of the Wairau Valley, are of volcanic origin.

Coal has been discovered in the neighbourhood of Picton, and in the Clarence Valley, but none has been as yet successfully worked within the district. A narrow belt of Tertiary limestone, suitable for building purposes, extends, with small interruptions, from Cape Campbell to the boundary of the Canterbury Provincial District. The Marlborough land may be divided into three classes: Open land, generally covered with associated grasses; forest-land; and intermediate, or land partly forest, partly covered with scrub, fern, or other rank vegetation. This original condition of the soil naturally gave rise to a localisation of industries, and a very unequal distribution of settlement. Thus the open country was taken up for pastoral purposes; in the forest country the timber industry was developed, and the intermediate land passed into the hands of farmers. Though agriculture is now extending into the pastoral and forest country, and considerable areas of forest-land have been cleared and laid down in grass, the portions of the district characterized by these respective industries are still well defined.

In the northern part of the district, bounded by Cook Strait, numerous deep fiords and bays run far into the land. The principal of these are Queen Charlotte and Pelorus Sounds, which are remarkable for the number of their reaches and inlets, and the beauty of their precipitous and forest-clad hills, culminating in Mount Stokes, 3,943 ft. above the sea.

Rivers.

Four considerable rivers, the Wairau, Awatere, Clarence, and Conway, rise towards the western boundary of the district; the two former, running east and north, fall into Cook Strait; the two latter, taking a southerly and easterly course, discharge into the sea on the eastern side of the Island. These rivers water large and fertile valleys, but none can be entered by vessels except the Wairau, which is navigable for small steamers for about ten miles from its mouth.

Plains.

The Wairau Plain, containing about 65,000 acres, on which stands Blenheim, the capital of Marlborough, is the principal block of agricultural land within the district. The soil, generally good, is, on the lower or seaward side of the plain, extremely fertile, especially in the neighbourhood of Tua Marina, Spring Creek, and near Blenheim, which is surrounded by numerous gardens, with rich deep mould, and well sheltered with trees. The average yield of wheat for the plain is about 25 bushels per acre; of oats and barley, 35; of peas, 30; and of potatoes, 10 tons per acre. Hops have been successfully grown for many years in the neighbourhood of the town, but, owing to the high price of labour, their cultivation has not extended. The plain, traversed in all directions by good macadamised roads, and dotted over with numerous comfortable homesteads, standing in clumps of trees amidst well-cultivated fields, has already an old-world appearance. More than half the population of the Marlborough Land District—12,677, according to the last census—is centred in the Town of Blenheim and on the Wairau Plain. Besides this plain there are several thousand acres of terrace flats and valleys along the larger rivers, notably at Starborough, on the Lower Awatere, all suitable for closer settlement, and capable of sustaining a large population.

Lakes.

There are not any lakes worthy the name. The largest is Kapara te Hau, more familiarly known as Grassmere, situate on the coast between the Awatere River and Cape Campbell. It is about three miles in diameter, and very shallow, being, indeed, no more than a lagoon, as during a dry season there is little or no water in it.

The only other known lake is Lake McRae, situate in the open country between the Awatere and the Clarence Rivers.

Forests.

The portion of Marlborough north-west of the Wairau River, extending to the boundary of the Nelson Land District, and including the County of Sounds, in all about 280,000 acres, was originally covered with dense forest. In the valleys and on the lower hill-slopes, rimu, kahikatea, matai, totara, miro, and tawa were the principal forest-trees. The higher portion of the hills and steep spurs are clothed with the various species and variety of birch (beech), to which along the shores of the Sounds were added pukatea and kohekohe, the latter locally called cedar.

Since 1860 sawmills have been at work in various parts of the district. Thirty-two mills have been erected, and have worked for longer or shorter periods. Havelock, on the Pelorus Sound, is at present the head-quarters of the timber trade.

The hills along the shores of the Sound will, for many years, furnish birch sleepers. There are other timbers left in places, but nowhere sufficient to justify the erection of a mill, unless pukatea wood, hitherto neglected, could be utilised. It is a light, tough timber, well adapted for boat-building and for packing-cases. The quantity of pine timber remaining in the Kaituna and Onamalutu Valleys is small, but there is a good supply of birch and other wood, suitable for fencing and firewood. On these valleys the Wairau Plain is mainly dependent for timber.

The Pelorus Valley, with its tributaries the Wakamarina, Rai, Ronga, and Opouri Valleys, still contain about 300,000,000 ft. of convertible timbers, exclusive of the birch, of which there is a large amount of the best quality on the hills and terraces. The Wairau, Blenheim, and other districts extending southwards must depend for the future on this source for all their building material.

In the neighbourhood of Kaikoura, along the base of Mount Fyffe, and in the Hapuku Valley, there is another small block of forest-land in which three small sawmills have been erected. The quantity of timber suitable for sawmill purposes in this block is very limited, but it will furnish the neighbouring country with firewood and fencing for many years.

Soils and their Uses.

The Wairau Plain, which is the principal block of agricultural land, has been already dealt with. The second agricultural centre is in the neighbourhood of Kaikoura. The land extending along the base of Mount Fyffe, between the Kohai and Hapuku Rivers, about 13,000 acres in extent, is held in small or moderate-sized farms; the soil is good, the block known as "The Swamp," between Mount Fyffe and the Peninsula, being particularly rich. In the Pelorus, Kaituna, and Onamalutu Valleys, and in the Sounds, settlers following in the wake of the sawmills have already converted much of the land worked over into grazing-farms. The land is of three descriptions—alluvial flats, terraces, and hill-sides. On the flats in the larger valleys the soil is rich, producing heavy crops of oats, peas, beans, and potatoes, wherever it has been brought into cultivation. The terrace-land varies much in quality, but generally grows good grass, as do also the hills on which tawa formerly grew; the birch country being very barren. On the small bush-farms cattle-grazing is the chief pursuit. Out of 14,000 head kept in Marlborough, 7,000 belong to the forest country.

Grazing,

About 1,680,000 acres of the Marlborough Land District are at present devoted to keeping sheep. The leaseholds in the northern parts of the district contain a large extent of scrub- and fern-covered country, now producing little or no food for sheep, but capable of improvement. The total number of sheep depastured is 842,185, distributed as follows amongst the counties into which the land district is divided: Marlborough County, 533,253; Sounds County, 127,882; Kaikoura County, 181,050. On the natural pasture of the open country merino sheep are kept almost exclusively, the land carrying from half to one sheep per acre. In the forest country, on sown grass, the land keeps from two to four crossbred sheep per acre. Along the shores of the Sounds large areas of hill-land have been taken up on lease, and are now being cleared and laid down in grass expressly for keeping sheep, but generally throughout the forest country the holdings are small or of moderate size, hence this is, after the Wairau Plain, the most populous portion of the district. The export of wool during last year amounted to about 11,000 bales.

Industries.

Gold-mining has been carried on for some years, principally at Mahakipawa, Wakamarina, and Wairau Valley. At present not much gold is being obtained, although there are now strong indications of a great improvement in the gold-mining industry.

There is one dredge at work in the Wakamarina River, giving fair results for the outlay. Another is about to start work in Mahakipawa Bay, and several companies have taken up dredging claims on the Wakamarina and Pelorus Rivers. Operations on the Canvastown Flat, which up to this time has not been tried owing to the amount of water to contend with, are about to commence immediately.

There are at present six sawmills at work within the district: one at Kaikoura, and the others in the Pelorus, Kaituna, and Onamalutu Valleys, and the Pelorus Sound. The principal one is Messrs. Brownlee and Co.'s, in the Pelorus Valley, the annual output being about 3,500,000 superficial feet. The value of the sawn timber shipped in 1897 from the company's wharf was £11,375.

Owing to the low price of dressed flax several of the mills have recently been closed, there being only four or five now at work. The quantity of hemp shipped during the year was 3,209 bales, and 578 bales tow.

In connection with one of the mills, a rope-factory has been established, in which binder-twine made of short flax or tow is the main product.

There are two flour-mills at work—one at Spring Creek, near Blenheim, owned by Messrs. Redwood Bros. This is a complete roller-mill, driven by water-power, and can turn out about 14 tons of flour in twenty-four hours. It is electric-lighted, and the sack-working machinery is driven by electric motor. The other mill, which is also worked by water-power, is Mr. T. Carter's, at Blenheim. The output of the two mills was 1,043 tons of flour and 370 tons of bran and sharps.

There is a dairy factory at Spring Creek which contains all the latest improvements in machinery; 17 tons of butter was produced in 1897.

There is a first-class cheese-factory at Tua Marina. The output last season was 50 tons, but the factory is capable of turning out 80 tons. There is also a good cheese-factory at Kaikoura.

Climate.

Marlborough possesses one of the finest climates in the world; and at Blenheim it is fine weather nearly all the year round. There is almost a total absence of the boisterous winds that so frequently visit Wellington.

The original distribution of the open and forest lands was entirely due to climatic causes. At Cape Campbell, one of the barest places in the district, the annual rainfall is only 23.25 in.; in the Pelorus Valley, the centre of the forest country, it is over 65 in. This difference between the climates of the north-western and south-eastern portions of the district explains why the artificial pasture-land, when compared with the natural pasture, supports such a large amount of stock. Winter and spring are the wettest seasons, hence the dry climate is not unfavourable for agriculture. Wherever the soil is suitable, crops sown in winter and harvested in early summer can be successfully grown. Everywhere near the coast the range of temperature, considering the latitude, is very small. The thermometer seldom falls below 30 deg., or rises above 78 deg. Along the shores of the Sounds the mildness of the winter, owing to the curious distribution of land and water, allows lemons, oranges, passion-fruit, figs, and other sub-tropical fruits to be grown in favourable situations. On the lower hills and terraces of the forest country the chestnut (*Castanea vulgaris*) grows rapidly, and commences to bear fruit in five or six years. A few trees planted in the Pelorus Valley some twenty years ago are now yielding annually about 2 cwt. of nuts a tree. In all parts of the low country the common English fruit-trees—apple, plum, pear, cherry, &c., yield abundantly, the fruit, owing to the clearness of the atmosphere, being of excellent quality. In the high country, where snow falls occasionally during winter, red, white, and black currants can be produced in such quantities that with little labour they might be made an article of export to the warmer parts of Australia.

Towns.

The chief town, Blenheim, is situate on the Wairau Plain, at the junction of the Opawa and Omaka Rivers—a third river, the Taylor, would join at about the same point were it not that when not in flood it disappears beneath the surface, about three miles south of the town. Blenheim has been termed a miniature Christchurch, doubtless from its extreme flatness. Considering this, its streets are not so straight and wide as they should be. The Government Buildings, which comprise the Post and Telegraph Offices, Lands and Survey Offices, Courts of Justice, &c., form a handsome edifice in the centre of the town, which is well planted with deciduous and evergreen trees. It is about eighteen miles and a half from Picton by rail, and about nine miles from the sea by the Opawa River, which is navigable for small steamers. Blenheim is lit with gas, and supplied with water, principally by artesian wells. The population is about 3,000.

The next town in importance is Picton, the principal port, only fifty-three miles by sea from Wellington. This little town, both in position and appearance, may be said to be the antithesis of Blenheim, being most picturesquely situated at the head of Queen Charlotte Sound, and nestling among hills, some of the higher ones still densely covered with birch and other forest. There is frequent communication with Wellington and Nelson by steamers averaging 500 tons, and vessels of 1,200 tons can lie at the wharf at low-water, where there is a depth of 25ft. Vessels of the largest tonnage can approach within half a mile. The direct exportation of frozen meat from Picton commenced in 1892, when 16,433 carcasses were shipped; the year before last Messrs. Nelson Brothers, who had a freezing-hulk at work, shipped about 20,000 carcasses. Last year the business of Nelson Brothers was acquired by the Wairau Freezing Company, which exported from Picton for the year ended 31st March, 1898, mutton, 22,152 carcasses, and lambs, 8,650 carcasses. Picton possesses a malting establishment also, producing for export, as the excellent quality of the barley grown on the Wairau Plain insures a ready market. A small quantity of oysters, mostly procured in Queen Charlotte Sound, is annually exported from Picton; with culture the supply might be almost indefinitely increased, many of the sheltered bays in both sounds being well adapted for the purpose. What is now being done along the Marlborough coast is a mere trifle compared with what might be accomplished if capital and knowledge were brought to bear on the fishing industry. Around the whole coast, from the mouth of the Conway to near the French Pass, the sea abounds in fish. Within the Sounds and amongst the islands of Cook Strait, hapuku, snapper, moki, barracouta, raturi, kahawai, and rock-cod are extremely plentiful. Immense shoals of the southern herring (*Clupea sagax*) and of anchovies (*Engraulis encrasicolus*) frequent the inlets at certain seasons of the year, and quantities of fresh fish are exported from thence to various places within the colony. As steamers arrive at and leave Picton almost daily, shipments can be made without delay to all parts. Picton possesses a good gravitation water-supply. Its population is about 800 persons.

Havelock, situate at the head of Pelorus Sound, is, as has been already stated, the present head-quarters of the timber trade, Messrs. Brownlee and Co.'s steam saw-mill, at the mouth of the Pelorus River, being only a mile or so from the town. Between Picton and Havelock there is a mail service twice a week, *via* Culleville, on the Mahakipawa Gold-fields. The population of Havelock is about 400 persons.

The Town of Kaikoura, the greater part of which is built on a raised shingle-beach, is situate at Kaikoura Peninsula, near the southern boundary of the district. The town, with the adjoining settlement of small farms, forms one of the most picturesque spots in New Zealand, lying as it does under the Seaward Kaikouras, or Looker-on Mountains. At the back of the town the peninsula, which is composed of Cretaceous-tertiary limestone, rises abruptly for about 100 ft., and affords splendid sites for dwelling-houses. Kaikoura is connected with Blenheim by a weekly coach service, the distance being about ninety-five miles. There is also direct steamer communication with Wellington and Lyttelton. The population of the town is about 400.

Roads and Railways.

The only railway is that between Picton and Blenheim, about eighteen miles and a half in length. The train, starting from Picton, runs twice a day. The railway has been completed for a distance of three miles south of Blenheim, and it is in contemplation to extend it as far as the Awatere River, which is shortly to be bridged with a railway and traffic bridge at a cost of £19,000, which will be a very great boon to the district.

The Main North Road to Nelson, distant seventy-eight miles, is a good metalled road nearly the whole way. It runs up the Wairau Valley from Blenheim for about six miles, crosses the Wairau River into the Kaituna Valley, which it follows as far as Havelock—about twenty-eight miles. It then runs up the Pelorus and Rai Valleys, and ascends by easy gradients to the Brown Saddle, where it crosses the boundary into Nelson. An excellent coach-service—probably the best in the colony—has been established for some years, the coach running to and from Nelson on alternate days, covering the distance in eleven hours, and another bi-weekly coach-service has lately been established between Blenheim and Havelock.

The Main South Road, running over the Taylor Pass into the Awatere Valley, and through the Starborough, Flaxbourne, Keherangu, and other properties, connects Blenheim with Kaikoura and the south, and is a good road during dry weather, although it might be much improved in places.

The portion between the Clarence River—over which a fine bridge was built some years ago—and the Hapuku River, runs along the coast under steep and picturesque hills covered with forest. Were a road constructed south of Kaikoura to connect with Cheviot it would open up some of the most beautiful coast scenery in New Zealand.

A good road has been formed up the Wairau Valley, passing through the Bankhouse, Erina, Lansdowne, Hillersden, and Birch-hill properties, and connecting with Tophouse, just outside the boundary, and distant fifty-six miles from Blenheim. At Tophouse there is an hotel and a telegraph-station, and from thence a good road leads to Belgrove, the present terminus of the Nelson Railway.

A coach runs twice a week between Blenheim and Wairau Valley—twenty-five miles—where there is an hotel, a post- and telegraph-office, and one or two stores.

There is also a good cart-road running up the Awatere River—which it crosses and re-crosses several times—as far as Molesworth Station, about seventy miles from Blenheim. Between these points there is a weekly coach- and mail-service.

There are other minor roads and bridle-tracks throughout the district too numerous to specify.

The area of Crown lands at present available for settlement is about 200,000 acres, but of this area 135,000 acres are of very poor quality, being chiefly the summits of high, rugged country. The balance of available area lies principally in the Pelorus, Rai, and Wakamarina Valleys, and in the Sounds, and will doubtless be readily taken up when thrown open for selection.

THE NELSON LAND DISTRICT.

T. HUMPHRIES, Chief Surveyor.

General Physical Description.

The Nelson Land District comprises the north and north-western portion of the Middle Island, the greater part being high and mountainous, and on the western and inland ranges covered with dense forest to the bush-limit, at from 4,000 ft. to 4,500 ft. Cape Farewell, the northernmost point, is situated at the western entrance of Cook Strait, on the south side of which lie Golden or Massacre Bay, and Tasman Bay, more commonly called Blind Bay. The former derives its name from the massacre of a boat's crew belonging to Tasman, who visited it on the occasion of his discovery of New Zealand in 1642. At the head of the latter, which has a depth.

of fifty-four miles from its entrance, stands the town of Nelson. From Separation Point, on the western side of Blind Bay, a range of mountains from 3,000 ft. to 4,000 ft. in height extends southward to Mount Murchison. It consists of a granitic formation, with slate, limestone, and sandstone belts. From Pelorus Sound, on the east, commences another range—a portion of which is serpentine, forming a mineral belt immediately south of Nelson City. It reaches an elevation of 6,000 ft., and runs in a south-westerly direction to the St. Arnaud Range, terminating in the Spencer Mountains, a large central mass attaining a height of 8,000 ft. above the sea-level. To the westward of the Spencer Ranges and those on the further side of Blind Bay are the Brunner, Lyell, Marine, and Tasman Mountains, from 5,000 ft. to 6,500 ft. in height. Still further westward along the coast are the Paparoa, Buckland Peaks, and Papahaua Mountains, about 4,500 ft. at their highest point, and the Whakamarama Range, extending from Rocks Point to Cape Farewell. There are also a number of isolated mountain-masses here and there through the district.

The inland Spencer Mountains are the source of the principal rivers of the district south of the Buller River, and are thus described by Sir Julius von Haast: "On the southern slopes of this wild alpine-stack we find the principal sources of the Grey, or Pohaturoha; on its north-east side the sources of the Wairau; on its eastern side those of the Acheron and Clarence; and in the deep recesses of these snow-clad giants those of the Waiau-ua, or Dillon: so we may say that, with the exception of the Takaka and Aorere, which fall into Massacre Bay, the Wangapeka and Motueka, which run into Blind Bay, the Karamea and smaller streams, which reach the sea on the West Coast to the north of the Buller River, all the rivers of any size in the northern part of this island take their rise in this magnificent chain."

Rivers.

The Buller River (Kawatiri) has its source at a point about sixty miles south-west from Nelson, where it flows out of the beautiful alpine lake Rotōiti, lying 1,800 ft. above sea-level at the foot of the lofty St. Arnaud Range. This river breaks through the massive mountain chains of the interior in a transverse or easterly direction, forming, where it receives no tributaries, a succession of magnificent rocky gorges, and, after a course of about one hundred miles, finally discharges its waters into the ocean on the West Coast. The Gowan River, a tributary, has its source in another exquisite lake, Rotoroa, 1,623 ft. above sea-level. Other tributaries of the Buller are: the Matakītiki, Maruia, Owen, Matiri, and Inangahua, all of which take their rise in the snowy ranges.

The Grey River (Mawhera), also discharging its waters on the West Coast, takes its rise in Lake Christabel, near the western flank of the Spencer Range. It has a very large basin, and numerous tributaries, of which the Ahaura is the chief.

The rivers on the eastern side, named above as taking their rise in this district, flow for the most part through mountain ranges and open valleys utilised as pastoral land.

Lakes.

The lakes of the district are alpine in character, surrounded by grand mountain and bush scenery. The principal are: Rotōiti, lying east, and Rotoroa south-east, of Mount Murchison; Matiri, to the west of Owen Range, 980 ft. above the sea; Lakes Tennyson, 3,614 ft., and Guyon, 2,638 ft., on the eastern flank of the Spencer Mountains; Lake Christabel, on their western flank; Lake Hochstetter and Lake Sumner, the latter 1,725 ft. above sea-level, lying under Mount Emerson (6,000 ft.).

Plains.

The plains of this district are limited in extent, the principal being the Amuri, in the valleys of the Hurunui and Waiau-ua, in the centre of which rises a partly isolated mass of hills called the Percival Ranges, the highest peak of which is Mount Percival, 5,335 ft. These plains, being well covered with native tussock-grass, were either purchased or taken up with pre-emptive rights as pastoral land very soon after the commencement of the settlement. The Waimea Plains, near Nelson, with

the Lower Motueka, Riwaka, and Takaka Valley lands, formed part of the original settlement of the New Zealand Company, and are occupied mostly by small settlers. Inland are the Tiraumea Plains, 1,100 ft. above sea-level, and the Maruia, 1,300 ft. These are, together, about 30,000 acres in extent. They are surrounded by high mountains heavily timbered, and the land is of only second-rate quality. On the West Coast the level lands are Totara Flat and Ikamatua Plains, in the Grey Valley, Mawhera-iti, and Inangahua Valleys, lying on the eastern flanks of the Paparoa coastal range. There are also open *pakihis* at Addison's Flat, on the south side of the Buller, and low swampy lands on the north side; northward is the heavily timbered country of the special settlement at the mouth of the Karamaea.

Forest.

The area of the district is estimated at about 7,000,000 acres, of which the area of open land under 2,000 ft. in altitude is, approximately, 1,835,000 acres; the area of forest-land under 2,000 ft., about 1,745,000 acres; open land over 2,000 ft., about 1,470,000 acres, including summits. The forest-lands may be approximately estimated at 3,290,000 acres, including good forest, mountain-forest, timber patches in gullies, &c. Of this area probably about 1,000,000 acres would be the utmost available for clearing. The timber on the western side consists of red- and white-pine, matai (or black-pine), totara, kawhaka (or cedar), rata, and occasional silver-pine, besides black- and red-birch (*Fagus fusca*). These varieties are also found, but in smaller areas, on the eastern side; birch preponderating. A large amount of timber is used in the mining industry for props and planking, and throughout the districts generally for shingles, fencing, firewood, sleepers, &c. There are forty-two sawmills at work, with an output of about 9,000,000 superficial feet per annum.

Agricultural.

Nelson has little land suitable for agriculture, most of it already taken up. On the Waiamea Plains is grown excellent barley, a small quantity of which is exported. Oats and chaff are sent in large amounts to the West Coast and elsewhere. Hops also form one of the chief exports. Wheat, maize, rye, and root-crops of most varieties are grown, and fruit is plentiful. The weekly wage of a farm-labourer is 20s. with board; without board he would receive 5s. a day. Ploughmen can get 20s. per week with board; without, 7s. 6d. a day.

Pastoral.

The total area of pastoral lands held under the Crown by 106 tenants on the 31st March, 1898, amounted to 989,055 acres. As the agricultural land is limited, settlers are turning their attention to the timbered mountain-slopes for grazing purposes. These, when the timber is felled and burnt, and the ground sown with suitable grass, will, after three to four years, carry about two sheep to an acre on fair soil, and more on the limestone country. The cost of felling and burning green timber is from 15s. to 20s. per acre; cost of mixed grass-seeds and sowing, about 15s. per acre; and a good paling-fence on ordinary bush-lands with double No. 8 wires at top and bottom, with $\frac{1}{4}$ in. palings and 7 in. posts sunk 2 ft. in the ground, can be erected at about 12s. per chain.

Mining.

The western side of the Nelson District was a *terra incognita* till about the year 1863, when gold was first discovered in large quantities. Miners flocked in at first from the other goldfields in New Zealand, then from Australia, California, and other parts of the world, until in 1865 the whole coast-line was peopled from Broken River in the north to Jackson's Bay in the south. Mining, at first altogether alluvial, developed into quartz-reefing, and hydraulic sluicing of large areas. The agricultural lands about the Grey and Inangahua were taken up and cultivated; and, as mining became a more settled industry, the miners occupied and tilled the non-auriferous alluvial flats in the many valleys: hence at the present time a number of homesteads are scattered throughout the district.

Reefton and its neighbourhood forms one of the chief quartz-mining districts in New Zealand; and the West Coast, including Westland, has produced about 45 per cent. of the total gold raised in the colony. The oldest alluvial field is at Collingwood. Among other minerals found in the district are: silver, copper, chrome, antimony, manganese, and hematite. Extensive deposits of coal are found on the West Coast, within the areas of the Grey and Buller Coalfields Reserves. Coal is also found in Collingwood, in Blind Bay, and in West Wanganui Inlet; and there are numerous smaller areas of coal-bearing strata here and there throughout the district. The output from the mines at work within the district during the year ending 31st December, 1897, was 431,000 tons, of which 415,859 tons were shipped, 298,080 tons from Westport and 117,779 tons from Greymouth. Copper-ore is found in a serpentine rock-formation near Nelson, but the companies which have worked the ore have not hitherto been successful—the last one, “The Champion,” failing from want of sufficient capital. Deposits of chromite-ore are also found here. Silver-ore has been worked in the Collingwood District; and at Parapara, in Blind Bay, there are widespread deposits of hematite-iron-ore, combined with limestone and coal, waiting only for capital to develop them. There is also a small industry in flax. It will be readily gathered from the above brief description that mining is the chief industry of the Nelson District. A great impetus has been given to the mining industry on the West Coast, in a manner similar to that which has taken place on the Auckland goldfields. In the Reefton district a large English syndicate has bought out several properties of quartz-mining companies, which have been paying concerns, although worked with limited capital and old-fashioned machinery, with the view of introducing the newest methods of working and the most improved gold-saving appliances. A number of wealthy syndicates are now in the field, and a great revival has taken place in prospecting for new reefs, and in developing numbers of others known to be auriferous, the working of which has hitherto languished for the want of capital to develop them.

The timber industry on the West Coast has now become a very important trade. During the past year about 8,000,000 ft. of various kinds of wood, principally red and black pine, have been cut in this district alone for export, and silver-pine has been largely in demand for railway-sleepers for home consumption.

Towns.

The chief town is Nelson, situated at the head of Blind Bay, in 41° 16' S., and surrounded on all sides, except the north, by mountains reaching an elevation of 3,500 ft. With a mean temperature of 54·8° Fahr. it possesses a climate almost unequalled for its beneficial effects on invalids suffering from pulmonary diseases. There are many picturesque spots in the suburbs, and the town itself, with its cleanly-looking buildings and well-kept gardens, is one of the most charming spots in New Zealand. There is an old-established Boys' College, and a High School for Girls, besides Government and other schools. The Anglican Pro-Cathedral, built on the summit of a central hill, memorable as being the site of fortifications erected in the early days of the settlement for defence against an expected attack of the Natives, is a striking feature. The Roman Catholic Church, Convent, and school-buildings cover a large extent of ground. There is also at Stoke, a small village three miles from Nelson, a central Catholic Orphanage, surrounded by grounds of considerable area. There is a good supply of excellent water from a reservoir in the hills at the back of the town, and the streets are well lighted with gas. The several Government departments are housed in one roomy building, containing a large hall used for Supreme Court sittings and other public purposes. Nelson has a small natural harbour, formed by a boulder-bank running for eight miles parallel to the shore, deep enough at high tide to admit vessels of 1,000 tons burden. It is a port of call for the Union Steamship Company's coastal steamers, and has a small local fleet plying between the West Coast, Blind Bay, Picton, and Wellington. The town is reached from the eastward by a good main road from Marlborough. A railway-line has been constructed up country to the southward for thirty miles, passing through the farming villages of Stoke, Richmond (borough), Brightwater, Wakefield, Foxhill, and Belgrove. Leaving for the West Coast by a good main road,

the traveller starts from the Belgrove Station on one of Cobb and Co.'s coaches, crosses Spooner's Range, the Clarke and Hope River saddles, and enters the Buller Valley at the junction of the Hope, about sixty-seven miles from town. He then enjoys a succession of views of mountain-gorge scenery; and, after traversing a gorge of seventeen miles in length, arrives at the Lyell, 107 miles from his starting-point. This is an alpine township, in a small quartz-mining neighbourhood. Here is a fine cast-iron girder bridge, spanning a rocky gorge of the Buller, and springing boldly from a bluff on the northern side. At 116 miles the junction of the Inangahua with the Buller is reached, the main road continuing to Reefton, with a branch road twenty-eight miles to Westport, which for twelve miles passes through some of the grandest river-gorge scenery in New Zealand.

Westport, the town next in importance to Nelson, is situated at the mouth of the Buller River. The harbour is sheltered from southerly gales by Cape Foulwind and its outlying rocks, and is accessible in nearly all weathers. A large sum has been spent on a system of harbour-works, designed by the late Sir John Coode. Westport is the place of shipment for the coal-mines lying northward as far as the Mokihinui River. The character of this coal for steam purposes stands almost unrivalled. The long line of coal-staiths on the northern bank of the river, with a fleet of steam-colliers loading alongside, does not fail at once to impress a visitor with a sense of the importance of the trade. Though much has already been done, yet the industry, from the extent of the coal-bearing strata, is capable of much larger expansion when the necessary capital can be found. The Westport-Ngakawau Railway to Mokihinui, connects with the mines and conveys the coal to the port. At the foot of the Mount Rochfort plateau, nine miles from Westport, is Waimangaroa, and on the plateau itself is Denniston—both coal-mining villages. The latter, built at an elevation of 1,960 ft., is said to be the highest township in New Zealand. On a clear day it is well worth a visit, for the sake of enjoying the magnificent panoramic view of the southern Alps, which reach their highest point in Mount Cook, 12,349 ft. high, about 100 miles south. South of Westport are the alluvial gold-mining centres of Addison's Flat, Croninville, Nine-mile Beach, and Charleston.

From the Inangahua Junction, the main road continues southward through the Inangahua Valley, passing through cultivated lands, which are being gradually won from the heavy bush, and at a distance of 136 miles from Nelson reaches the township of Reefton. Here, as at Westport, are good hotels, and, as in every one of the larger coast towns, a hospital receiving a Government grant-in-aid. This town was the first in New Zealand to be lighted by electricity. Through the Midland Railway Company's extension of the Grey-Brunner Government line, Reefton is now connected by rail with Greymouth, from whence it is for the most part supplied. About two miles inland from Reefton is Black's Point mining township, with several batteries at work in and about the place, a visit to which is generally paid by tourists wishing to see something of the gold-mining industry. Other small mining townships are: Boatman's, Capleston, Antonio's, Noble's, Orwell Creek, Hatters', Nelson Creek, and Twelve-mile.

Leaving Reefton by rail, and passing into the Grey Valley through a short tunnel, and by a bridge over the Grey River, Totara Flat is reached, nineteen miles distant. Here there is a considerable area under cultivation. Seven miles farther on is the decayed mining township of Ahaura. Small townships are springing up along the railway-line, and several large sawmills are working.

At the Grey River Gorge, eight miles from Greymouth, we enter the Borough of Brunner. This place is the oldest centre of coal-mining in the district. Owing to the effect of the coal-smoke from the coke-ovens on the surrounding cliffs and bush, and the appearance of the numerous miners' cottages nestling on the mountain-slopes, it has the look of a veritable "Black Country," such as may be seen in some coal-districts in England.

Several large sawmills are at work between this place and Greymouth, which we reach at a distance of 180 miles from Nelson, the centre of the Grey River from its junction with the Arnold being the southern boundary of the district at this

part. The Midland Railway line, to connect with Canterbury by way of Arthur's Pass in the Otira Gorge, has been constructed on the Westland side of the Arnold River to Lake Brunner, the eastern shores of which it skirts for some distance, and from thence to the Teremakau River.

The town of Greymouth is situated on the south bank of the Grey River, in the Westland District, and is the shipping-port for the products of the coal-basin included within the area of the Grey Coalfields Reserve, the larger portion of which lies on the north bank of the river in the Nelson District.

The small town of Cobden is situated opposite the town of Greymouth, and is connected with it by a substantial bridge.

Roads, Tracks, &c.

Situate on the coast, fifty miles north of Westport, is the Karamea Special Settlement, principally settled from the Nelson and Motueka Valley districts. This part of the district contains some excellent but heavily-timbered land, and is reached from Westport by a good road, connecting with the Westport-Ngakawau Railway at the Mokihinui River. A bridle-track, also, connecting with Collingwood and Golden Bay, is nearly completed by the Government. This track passes along the coast northwards, thence up the Heaphy Valley to the Golden Downs, and down the Aorere Valley to Golden Bay. Here again is another coal-basin, which, though of inferior value to the older deposits on the western side, is likely to become of importance, having at the present time one mine in full work. Another coal-basin exists at West Wanganui and Pakawau.

In the Aorere Valley, of which Collingwood is the port, alluvial mining is still found to be payable, and the country contains some valuable timber in the upper part not yet utilised. Nineteen miles south, in Blind Bay, lies the small port of Waitapu, from which a considerable amount of sawn timber is exported, drawn from the Takaka Valley, and brought down by a steam tramway from the upper mills. From the head of this valley the main road is carried over a pass in the Pikikirunga Range, 3,476 ft. high, through the villages of East and West Takaka, Riwaka, Motueka, and Mouere to the town of Richmond, eight miles from Nelson. Inland are also the villages of Ngatimoti, Dovedale, Tadmor, and Sherry, each the centre of a number of small farms, and all connected by fairly-good dray-roads.

An inland road, partly bridle-track and partly dray-road, has been made from Nelson to Canterbury, by way of Tophouse, Wairau Gorge, Tarndale, Clarence Valley, Jollie's Pass, and the Waiau Plains. On the Hanmer, a tributary of the Waiau-ua, is a Government Sanatorium, at an elevation of 1,000 ft. above sea-level, and among hills 6,000 ft. high. Here there are hot mineral springs, much visited by persons suffering from rheumatism and skin-diseases. It is reached by coach and rail from Christchurch in ten hours. The main-trunk railway-line is constructed to Culverden, twelve miles north of the Hurunui, the southern boundary of the district. From Culverden a good coach-road passes through Rotherham and Waiau-ua to the East Coast at Kaikoura, connecting with Blenheim and Nelson.

Crown Lands.

About 3,000,000 acres of Crown lands still remain unoccupied in the northern part of the Nelson District; they consist principally of high bush-country, with occasional patches of good valley-lands, the greater part being classed as second-class land. Of these, the area open for selection to date comprises 25,858 acres of surveyed lands, and 269,700 acres unsurveyed lands, of which the location, nature of soil, &c., have been briefly described in the foregoing pages.

THE WESTLAND LAND DISTRICT.

W. G. MURRAY, Chief Surveyor.

The Westland District occupies the central portion of the western watershed of the Middle Island, joining Canterbury on the east; its north and south boundaries with Nelson and Otago being the Grey, Arnold, and Awarua Rivers. The mean length is 200 miles, and its average width 24 miles. The area is 4,759 square miles, composed, for the most part, of the great central snow-clad mountain chain and its out-running ranges, intersected by narrow bush-clad valleys, and subsiding westward into undulating plateaux, river-straths, and shelving coasts.

Physical Features.—Mountains.

The great dividing range which constitutes the eastern boundary from Harper's Pass to Mount Aspiring presents a magnificent façade of snow- and ice-clad summits, representing every aspect of mountain grandeur, such as spires and battlements of rock protruding from ice and snow; precipices of enormous height, with cascades; drifted expanses of snow-fields, feeding glaciers; cañons, and ravined foot-hills covered to the top with forest.

Rivers.

A few of these lead from the foot-hills, and are of small volume; the others are snow-born streams descending from the central range, at first in narrow gorges amongst the mountains, but spreading widely on reaching the sea-board country. They are shallow shingly streams in winter, but swift deep rivers in summer. In the northern district all the larger rivers are bridged; and southward, ferries are placed on all the main streams, which, from the melting of the snow, are practically unfordable from September to January.

Forests.

Generally speaking, the whole of the district is covered with dense forest, from the sea-beach to the grass-grown tops of the high ranges, even the gaunt, broken mountain-faces being wrapped with exuberant foliage. The varieties of trees differ considerably according to soil and altitude. Kamahi and rata are the chief timbers, very useful for firewood, and, spread over the whole country, constitute an almost inexhaustible supply. Rimu is the chief milling timber, and this also is widely distributed from the sea-board to the interior uplands. Valuable stretches of white-pine belt the low-lying depression of the coastal lands, and the same may be remarked concerning the imperishable silver-pine. Clumps of black-pine of good quality are met with, also rarer patches of marketable totara; while serviceable cedars are scattered along the flanks of the inland ranges and all over the lower hills and plateaux. The approximate area of forest equals 2,394,951 acres, of which about 940,500 acres carry timber fit for the saw-mill, and some 903,785 acres dwarfed alpine varieties.

Lakes.

A considerable and varied number are dotted over the district, no two being alike, but varying in character: comprising mountain tarns; coastal tidal lagoons; shallow reedy sheets; deep mountain-girt waters—all more or less forest-locked, and presenting every form of lacustrine beauty. In conjunction with their effluents they form valuable water-ways for light transport to adjacent districts.

Soils.

The high pastoral uplands have a coating of rich moulds, and this continues fairly good down to the heavy timber lands. The alpine forest is readily cleared, burns clean, and imported grasses grow luxuriantly, cocksfoot being the best, as it withstands fire and frosts. The lower flanks of the mountains hold a thinner soil, which at present hardly repays the heavy labour of felling; while the lower heights

are somewhat abrupt and unfitted for cultivation. A margin, varying in width, of fertile slopes and fans fringes the bases of the hills, and, having a natural drainage, constitutes an area of excellent agricultural land.

The upland soils of the coastal undulations and terraces are light loams of moderate fertility, which rest upon transported gravels, the drifted accumulations of eroded hills. On these plateaux are numerous "pakihis," or natural clearings, which are mostly extensive tracts of swampy lands, with a peaty soil resting on thin layers of impervious clay, and non-porous gravels, or, in a few cases, on impacted glacial moraines: these formations all overlying loose drifts. The reclamation of these areas is only a matter of time, as the bulk of them are quite drainable.

Stretches of good alluvium border the rivers, streams, and sea-coast, and form the favourite location for settlers.

Climate.

The climate is equable and temperate, remarkably free from storms and fogs; and immediately after bad weather the clouds roll inland, and there is a prevailing clearness of sky. The rain-bearing winds are mostly from the north-west and north-east. The southerly winter gales usually coat the great ranges with snow, which, however, rarely falls below 2,000 ft.

Pastoral Lands.

The total area of pastoral lands amounts to 2,002,577 acres, 103,801 of which constitute high mountain grass districts, the balance, 1,898,776 acres, comprising the ordinary bush-clad country, much of which is quite inaccessible to stock. All over the coastal lands, along the slopes of the lower hills and in the bottoms of the valleys, large herds of cattle are bred and fattened on the dense undergrowth of the forest. The tussock herbage of the high lands is being gradually used by sheep-farmers, and in the near future these natural pastures will support large flocks.

Agricultural Lands.

The agricultural lands comprise some 307,344 acres of forest and 16,440 acres of open surface, such as swamps, grass-grown river-beds and fringes, &c. The bulk of these lands, when cleared of bush, grow abundance of root-crops, especially turnips, which are much used for fattening purposes. The even and moist temperature encourages the almost uninterrupted growth of grass and clover, which are very luxuriant, and favour stock-raising. Oats are also grown abundantly for local consumption, and for the most part are cut into chaff. Year by year the imports of potatoes, fruits, butter, and fat stock are decreasing, owing to increased local production.

Means of Communication.

The district is fairly well provided with means of communication. The railway now extends from Hokitika, *viâ* Greymouth, to Reefton, branching at Stillwater to Jackson, in the Upper Teremakau; and a further extension to Otira is now being constructed. Coaches twice a week connect with Canterbury, *viâ* Arthur's Pass, and ply daily between Ross, Hokitika, Kumara, Greymouth, and the neighbouring towns: while once a week a mail is conveyed on horseback southward to Gillespie's Beach, and once a fortnight to Jackson's Bay. A subsidised steamer runs between Hokitika and the numerous southern ports as far as Jackson's Bay, plying every two months, thus enabling settlers to obtain supplies and to ship their cattle and produce to market. The Government steamer also calls at Big, Jackson's, and Bruce Bays on her quarterly trips from Dunedin. Steamers also trade regularly between Hokitika and Greymouth, and other parts of the colony. The Main South Road, which for many miles skirts the foot of the main range, has been so greatly improved of late years that the traveller can now ride comfortably and safely *viâ* Haast Pass right through into Otago. Numerous bridle-tracks branch from the trunk line to various points, while the large open river-beds likewise give access to the country on either hand. From Jackson's Bay horse-tracks have been made, *viâ* Cascade River and Barn Bay, to open up the southernmost country. Sundry cols, varying in height from 1,800 ft. to over 7,000 ft., leading down the central range, have been explored, mapped, and during the summer months are crossed from time

to time by experienced mountaineers. Of these depressions, the only sub-alpine saddle is Haast Pass, all the others being liable to blocks by winter snows. A coach-road over Arthur's Pass and a horse-track through Haast Pass have been made. Another bridle-road is also in course of construction across Whitcombe's Pass, but between these points no trans-insular road exists. Tracks have also been constructed giving easy access to the Franz Josef and Fox glaciers, and in the future, as population increases, doubtless tourist and stock tracks will be constructed along many of the intervening routes. From Okarito northward the district is in direct telegraphic communication with the rest of the colony.

Harbours and Ports.

The harbours and ports of Westland are the following:—

Greymouth, twenty-four miles north-east of Hokitika: Extensive harbour-works have been carried out. A breakwater or sea-wall extends some 3,392 ft. seaward from the mouth of the river on the south side, and on the north side 1,125 ft., with internal half-tide training walls, the result being an average depth of water on the bar of 20·9 ft. at high water and of from 8 ft. to 16 ft. at low water. Vessels of 1,000 tons can now come alongside the wharf. There is berthage accommodation of 1,824 ft., with a minimum depth of 12 ft. to 16 ft. at low water. The principal exports are gold, coal, coke, and timber. The number of vessels that entered the port during the year 1897 was: 547 steamers, tonnage 142,147; 31 sailing-vessels, tonnage 5,727: being a total tonnage of 147,874 for the year. The train runs down the wharf, and the coal-trucks, specially made for the purpose, are lifted and emptied into the vessel's hold by means of powerful cranes, of which there are six, with capacities of from 1½ tons to 12 tons, so that every encouragement is given to quick despatch. 117,779 tons of coal and 10,000,000 superficial feet of sawn timber were exported during the year.

Hokitika: Two training-walls have been constructed, the one on the north side being about 2,000 ft. long, while that on the south is 670 ft. The bar is one of shifting sand, and the depth at high water varies from 9 ft. to 15 ft., while inside the depth is from 6 ft. to 22 ft. for three-quarters of a mile up from the entrance. For ten months out of the twelve the port is usually safe for vessels drawing 8 ft. to 10 ft. of water. The berthage space amounts to 1,000 ft., with from 18 ft. to 22 ft. of water. The principal exports are gold and timber. The number of vessels that entered the port during 1897 was 70; tonnage, 4,414.

Okarito, fifty-five miles south-west of Hokitika: A bar harbour, sometimes completely blocked by a high sand-bank thrown up by heavy seas. When open, the entrance is good, with a maximum depth of 10 ft. There is a small jetty about half a mile from the entrance.

Bruce Bay, ninety-five miles south-west of Hokitika: An open roadstead, well sheltered from the south and south-westerly winds by Heretaniwha Point, which juts out fully a mile to the northward. Good anchorage in 18 ft. of water opposite the Green Rock, which stands up out of the water. Good boat-landing with above winds on a smooth sandy beach.

Paringa River, 104 miles south-west of Hokitika: Open roadstead. Vessels coming in and out should give Hauata Reef (off the north head) a wide berth. There is also a sunken reef, awash at low water, in the middle of the bay, and a dangerous sunken rock just off the south head, two or three chains away, facing a small sandy bay, and right abreast of the trig. station. Vessels lie inside and a little to the northward of this rock, about a quarter of a mile from shore, and are quite safe with southerly winds.

Haast River, 118 miles south-west of Hokitika: A constantly-shifting bar at entrance, which is nearly opposite and a little to the southward of the Alhambra Rock. This rock stands well out of the water, and vessels entering can go on either side with safety. Average depth of water on bar from 6 ft. to 8 ft.

Okuru and Turnbull Rivers, 138 miles south-west of Hokitika: These rivers join just inside the entrance. Good, straight channel; average depth, 8 ft. to 10 ft. The port is well sheltered by Open Bay Islands, which lie about three miles away, just opposite the entrance, bearing a trifle west of north. A dangerous reef lies about

two miles and a half from the south-west point of the smaller island, and immediately to the north-west of a line drawn from the last-named point to the extreme end of Jackson's Head.

Jackson's Bay, 153 miles south-west of Hokitika: Good shelter and anchorage, open only to north-east, with 12 ft. of water within a few chains of shore. Jackson's Head runs out about one mile and a half in a north-easterly direction from the southern end of the bay. This is the only ocean harbour on the coast of Westland, and could be converted into a first-class port at comparatively small cost. No doubt Jackson's Bay will eventually form a great coal port, as indications of coal are found from the bay to Tauperikaka, a distance of thirty miles. Moreover, the recent discovery of a practicable pass through the main range, *via* the Waitoto and Axius Rivers, will make it in the near future the natural outlet for the Lake Wanaka country.

Big, or Awarua Bay, 200 miles south-west of Hokitika: At the extreme south-west corner of Westland. An open roadstead, sheltered from east and south-west winds; 24 ft. of water on south side anchorage and 30 ft. on north side, just opposite Crayfish Rock, in a spot sheltered from northerly winds.

Steamers have also, in past years, entered the Teremakau, Waitaha, Wataroa, Wanganui, Waitoto, and Arawata Rivers, all of which have bar-entrances. The Cascade River is likewise navigable, though no steamer has as yet been in; and goods and passengers are also landed at the roadsteads of Saltwater, Gillespie's Beach, and Abbey Rocks.

Towns.

Brunnerton: A borough of about 1,200 inhabitants; is a coal-mining centre. Coke and fire-clay bricks are also manufactured. Railway communication with Greymouth Port, Reefton, and Upper Teremakau.

Greymouth Borough: Population, 3,319; the shipping port for Grey Valley. Railway communication with Reefton, Upper Teremakau, and Hokitika. Railway workshops, foundry, and quarries. The principal business portion of the town is built on Native land, rents being paid to the Public Trustee, who distributes them to Natives entitled thereto.

Kumara: Borough, of 1,149 inhabitants. This is a brisk mining town, and is probably the largest hydraulic-sluicing mining centre in New Zealand. It has two suburbs—Dillmanstown and Larrikin's—with populations of 467 and 162 respectively.

Hokitika: Borough, of 2,250 inhabitants. This is a pretty town, the political capital of Westland, the port for shipping and centre of supply for a number of little townships, and for the whole district south of Teremakau.

Ross: Borough, population 727. A clean and neat little town, the centre of a considerable mining district, with a few good sluicing claims on a large scale.

In addition to the above, there are several small mining centres, such as Stafford, Kanieri, Woodstock, Rimu, Blue Spur, Okarito, and Gillespie's.

Mining and Minerals.

The District of Westland contains the greatest area of alluvial auriferous ground on the West Coast. In the Mines Report of 1897 the number of miners employed was given as 2,426, and the amount of gold produced as 48,034 oz., valued at £192,284.

All the Westland rivers carry more or less gold, but the two great golden rivers are the Arahura and Waiho, the bars and ripples in which appear to be replenished with fresh deposits of gold after each flood. Standing on the summit of Mount Turiwhate, the ancient beds of the Arahura can be easily traced northward to the Kumara and southward to the Rimu diggings. Similarly the Waiho has, in olden times, flowed both northward down the course of the Okarito River and southward to the Omoeroa River, the lateral terraces in both directions being well defined and gold-bearing.

There are three main gold-bearing deposits in Westland: the first, which may be called riverine leads, run generally westward. These are ancient river-beds, often lying at considerable elevations, of which the bulk has been washed away, leaving detached portions, as at Kumara and Rimu; the second are beach leads, both those along the present coast-line, and others running parallel thereto at distances varying

from one-quarter to four miles inland, and at levels from a few feet below to a couple of hundred feet above sea-level; the third are extensive masses of gravel, &c., occurring in large isolated patches, as at Big Dam Hill, Humphrey's Gully, and Bald Hill, north of the Haast. These drifts have all one notable peculiarity, viz., that they invariably coat the seaward faces of the hills, and neither gold nor drift is to be found on the inland slopes. Gold-bearing fans from Mount Greenland have been found at different levels on Ross Flat, having probably been deposited in deep water by successive land-slides.

Hydraulic sluicing on a large scale is successfully carried on in various portions of the northern district, and is rapidly being extended to many other localities. Kanieri Lake is being re-utilised, and an abundant quantity of water is now available for the sluicers in the Kanieri Valley. The extension, now proposed, of that race to Back Creek would develop a very large field. The tapping of the Arahura River will, when completed, enable the miners at Blue Spur to obtain an unfailing supply of water, and command a large area of auriferous country, at present unworkable from want of water at a sufficient altitude. Numerous and costly experiments have been made with dredges of different types in the endeavour to work economically the gold-bearing sands which lie along the sea-beaches for a distance of over 140 miles; but none have proved a success as yet. A considerable number of miners (black-sanders) work on some of these beaches, and seem to make a fair living, many of them having been so employed in one neighbourhood for over twenty years.

Gold-bearing quartz has been found throughout the district, the most promising finds being at Taipo Range, Browning's Pass, and Cedar Creek, where extensive and costly prospecting is now in progress. Silver ores, associated with gold, have also been found, notably at Rangitoto, where a systematic and expensive search is being continued for the main lode. Copper lodes have also been discovered throughout the country, the finest outcrop being on the western slopes of the Matakitiaki Range, with good seams and beds of coal and limestone adjacent.

THE CANTERBURY LAND DISTRICT.

SIDNEY WERTMAN, Chief Surveyor.

Boundaries—Physical Features.

The Land District of Canterbury comprises the central portion of the Middle Island, and is bounded towards the north by the Hurunui River, with an extension northward to the Waiau-ua River for about twelve miles from the sea; towards the westward by the summit of the Southern Alps to Mount Aspiring; thence towards the south by a right line and by the Ohau and Waitaki Rivers to the sea; and towards the east by the South Pacific Ocean. It lies between south latitudes $42^{\circ} 45'$ and $44^{\circ} 55'$, and east longitudes $168^{\circ} 50'$ and $173^{\circ} 20'$. The length of the district north-east and south-west is about 190 miles; the breadth W.N.W. and E.S.E., from the summit of the Alps to the sea, averages seventy miles. The sea-board has a length of about 240 miles, consisting generally of low-lying beaches, broken by the projection eastward of Banks Peninsula, which contains the only large natural harbours. That portion of the district which fronts the ocean between the Ashley and Opihi Rivers is flat land, about 2,500,000 acres in extent; north and south of those limits the plain is interspersed with undulating and hilly country.

This great plain stretches westwards, rising and merging into downs and hills, which again extend westward and merge into the Southern Alps and the offshoots therefrom. Banks Peninsula, which has an area of about 250,000 acres, is wholly composed of ridges and hills, deeply intersected by basins and gullies, the result of volcanic action.

The Southern Alps, which form the backbone of the island, are a continuous chain of mountains, with a succession of magnificent peaks, attaining their culminating point in Mount Cook, or Aorangi, 12,349 ft. above sea-level; there are, besides,

numerous peaks ranging in altitude between 7,000 ft. and 10,000 ft. Offshoots, extending to great distances eastward and south-eastward from the main range, attain elevations of 6,000 ft. to 9,000 ft. On these mountain-ranges are numerous and extensive glaciers, from which emanates the river-system of the district, comprising the Hurunui, about 85 miles in length; Waimakariri, 90 miles; Rakaia, 85 miles; Ashburton, 64 miles; Rangitata, 74 miles: the Waitaki and its main feeders, 140 miles. These rivers rush down from the mountain-gorges, through the intervening ranges and hills, and traverse the plains to the sea. The channels on the plains are shallow, and extend in some instances over a mile in width.

These rivers serve as outlets for a portion of the Lake system of the Middle Island, Lake Sumner being connected with the Hurunui, Lakes Coleridge and Heron with the Rakaia, and the Mackenzie Country lakes—Tekapo, Pukaki, and Ohau—with the Waitaki. Another important lake is that known as Lake Ellesmere, west of Banks Peninsula; it is separated from the ocean by a narrow shingle-spit only 5 chains across at one point, through which, at certain seasons, the flood waters force a channel to the sea.

Climate.

The climate of Canterbury is well suited to Europeans. It resembles that of Great Britain, but on the plains is far more equable, the mean daily range of temperature being 17°-10° Fahr. Observations taken at Lincoln (fourteen miles from Christchurch) for a period of ten years, ending December, 1892, give the following results: Barometer, reduced to 32° Fahr. and sea-level, 30·06 in.; mean maximum daily temperature, 61·47°; mean minimum daily temperature, 43·27°; mean average temperature, 52·37°. The extremes of temperature were 92° and 22° Fahr. The rainfall for the same period averaged 26·809 in. per annum, the extremes being 35·287 in. in 1886 and 14·836 in. in 1890. The average annual number of days on which rain fell was 123, the extremes being 149 in 1887 and 98 in 1891. Snowfalls are very light on the plains, but in the high uplands the climate is much colder and more severe. The changes of weather and temperature are sudden, calms and gales, rain and sunshine, heat and cold alternating. The prevailing winds are north-east, south-west, and north-west—the last a hot wind. The climate, as a whole, is splendidly healthy, bracing, and most enjoyable.

Foundation and Settlement.

The district was occupied, in the first instance, by settlers sent out by the Canterbury Association, which was formed in 1848, and incorporated by Royal Charter in 1849, under the auspices of prominent men in England, including the Archbishop of Canterbury and Lord Lyttelton. The step was not taken until after due inquiry as to the most suitable part in which to establish a settlement. Captain (now Sir George) Grey, at that time Governor, recommended the Wairarapa, but it was finally decided to take over from the New Zealand Company a tract of the Canterbury Plains, in the neighbourhood of Port Cooper. Captain Thomas, the agent of the association, who had advised the selection, superintended the surveys and the preparations for receiving intending settlers. The original intention of the founders was that the settlement should be independent and complete in itself, and should embrace only such persons as were members of the Church of England and were approved of by the association. This was frustrated by the influx of numbers of persons of all classes and beliefs. The first body of emigrants arrived at Port Cooper on the 16th December, 1850, and the settlement remained under the control of the association, as directed by a committee of management in England, and under the active personal supervision of Mr. John Robert Godley, until 1853, when the whole of Canterbury became a province of New Zealand by the provisions of "The Constitution Act, 1852."

Thenceforward the control of the settlement was vested in the Superintendent and the Provincial Council. The first Superintendent was Mr. James Edward FitzGerald, who held office till 1857; he was followed in succession by Mr. William Sefton Moorhouse, 1857-1863; Mr. Samuel Bealey, 1863-1866; Mr. Moorhouse again till 1868; and Mr. William Rolleston till the abolition of the provinces in 1876, when the district came directly under the control of the General Government.

Internal Communication.

In no part of New Zealand are the means of communication better than in Canterbury. The natural facilities of the country have been abundantly supplemented by railways and roads. Lyttelton, the chief port, is connected by rail with Christchurch, the heart and centre of the whole district. From Christchurch the main line extends northwards to Culverden, striking the Hurunui River at a distance of 57 miles; southward the main trunk line runs to Waitaki, 138½ miles. These lines tap and serve the whole coastal district, and the lands adjoining on the western side. As feeders to these trunk lines, eight branch lines have been constructed westward, and two lines south-eastward; the former, in most instances, extending to the foot of the hills.

Combined with the railway system is a complete network of main, district, and subsidiary roads, extending into all parts of Canterbury. The total length of railways is 455 miles, and the roads probably exceed 10,000 miles in the aggregate. The completion of this splendid system is due, partly to the foresight of the original settlers, partly to the exertions of the Provincial Government, and partly to the railway and public-works policy of Sir Julius Vogel.

Geological Formation.

According to Sir James Hector, the main western ranges are composed of Upper Palæozoic rocks, having at their base extensive plains of Tertiary fluviatile formation, with occasional protruding ridges of Upper Mesozoic, forming low mountain-ranges subordinate to the main axis. Banks Peninsula consists of basic volcanic rocks.

Area, Nature, and Disposition of Lands.

The area of the Canterbury Land District is 8,776,655 acres, of which the estimated area of forest-land is 492,130 acres. Forest-lands are found in Banks Peninsula and in the Mount Peel and Waimate districts, where the timber consists chiefly of rimu, totara and matai; at the sources of the Ashley, Waimakariri, Rakaia, Hopkins, and Hunter Rivers, at Lake Wannaka and near Springfield and Methven, the timber in these localities being mostly native beech; and near Oxford, where the beech is interspersed with rimu, totara, matai, &c.

The lands of Canterbury are classed as follows: First class, 1,840,681 acres; second class, 4,707,173 acres; third class (barren lands and lands of small value), 2,228,801 acres: total, 8,776,655 acres.

The disposition of lands was in 1897 as follows:—

	No. of Holders.	Area in Acres
1. Crown lands disposed of for cash (including land granted under Midland Railway Act, 330,414 acres) ...	...	3,444,385
2. Lands held on deferred payments ...	50	14,582
3. Lands held on perpetual lease ...	162	17,031
4. Lands held as leaseholds in perpetuity ...	788	148,730
5. Lands held in occupation with right of purchase ...	15	1,082
6. Lands held as village-homestead special settlements ...	354	11,727
7. Lands held as small grazing-runs ...	50	124,281
8. Lands held as grazing-farms (on Cheviot Estate) ...	41	45,691
9. Pastoral licenses ...	101	3,071,411
10. Special-settlement associations ...	36	4,383
11. Reserves and Crown lands held under temporary occupation licenses (area, 61,990 acres, included in 12 and 16) ...	413	...
12. Area of land reserved and granted under various Acts (exclusive of Midland Railway land, included in 1) ...	...	486,020
13. Land purchased and disposed of under Land for Settlements Acts (included in 4, 7, 10, and 11; 430 holders, 51,554 acres) ...	...	...
14. Crown lands open for selection ...	...	11,002
15. Crown lands being prepared for selection ...	...	...
16. Barren lands, and lands for future disposal ...	...	1,396,330
Total ...	2,010	8,776,655

In explanation, it may be noted that No. 1 comprises the freehold lands conveyed, and that tenants of Nos. 2, 3, and 5 have the right of acquiring the freehold, which is not the case with tenants of Nos. 4, 6, 7, 8, 9, 10, 12, and 13. Crown lands proper are : 14, open for selection ; 15, being prepared for selection.

Soils.

The Southern Alps and mountains adjoining are, owing to their great altitude, subject to disintegration, and form for the most part rocky barren wastes.

The lower ranges and hills, the high tablelands, and the light stony portions of the plain form the pastoral areas.

In the northern and southern districts and in the great central plain are the agricultural areas. This latter class of land comprises rich alluvial tracts about Cheviot, Rangiora, Kaiapoi, Lincoln, Ellesmere, Longbeach, Temuka, and Waimate, and the splendid plain- and down-lands which extend from Cheviot to the Waitaki.

Banks Peninsula, where the soil is of a rich volcanic nature, though exceedingly hilly, has alluvial areas in the valleys and about the bays.

Pasturage and Crops.

Below a certain level, the mountainous and hilly regions, and the high upland country in the western and northern part, are covered by native grasses, with an admixture of English forage-plants where the character of the soil and other circumstances are favourable.

The pasturage, which is very suitable for sheep-farming, is taken full advantage of by the pastoral tenants of the Crown, and is used to some extent by freeholders. The light stony portions of the plain also contain native grass lands, well adapted to merino sheep.

The lower hills, downs, and better kinds of plain-country have been widely cultivated, and have proved well fitted for the production both of cereals and of grasses.

The chief crops grown are wheat, oats, barley, turnips, rape, clover- and grass-seed ; while amongst other crops produced are maize, rye, peas, and beans.

Of the cereals, wheat is the most largely grown, and was for many years a large item of export. In the season 1897-98 the area under crop was 200,992 acres, yielding an average of 15.10 bushels per acre, or 3,035,404 bushels in all, equal to more than half of the whole yield for the colony.

Oats also are very successfully grown, the figures for the same period being 115,253 acres, which yielded 2,312,020 bushels ; or an average of 20 bushels per acre, or nearly one-fourth of the total yield for the colony.

Barley of superior quality is also produced, the figures being 10,298 acres, 189,066 bushels : average per acre, 18.35 bushels, or over one-fourth of total yield. Grass-seeds are abundantly grown, cocksfoot mainly on the splendid Banks Peninsula country, and rye throughout the land district.

Root-crops.

Potatoes, which yield crops of excellent quality, were grown in 1897-98 on 10,917 acres ; turnips and rape were grown on 171,720 acres, and the combined area of other crops grown, including rye, peas, beans, mangolds, beet, carrots, and onions, was 13,751 acres. The area of oats for fodder was 70,825 acres. The area ploughed and laid down in English grasses was 1,381,685 acres. Surface-sown lands comprised 345,180 acres. The total area under crop was 619,277 acres, and the area broken up but not in crop, 10,704 acres.

Stock.

The pastoral and agricultural lands provide grazing and fodder for a large number of sheep, cattle, horses, and other stock. Of late years the value of the plains has been much enhanced and the carrying-capacity thereof greatly increased by the water-race system, which supplies water throughout the length and breadth of the dry areas, and enables the country to be occupied in smaller holdings than would otherwise be possible.

The following table shows the extent, cost, and other particulars regarding the water-race system in the several counties in 1897:—

County.	Area watered.	Miles of Races.	Total Cost.	Cost per Acre watered.	Amount of Water distributed every Twenty-four Hours.	Annual Charge for Use of Water.
	Acres.		£	s. d.	Gal.	
Selwyn ...	326,388	1,084	67,679	4 1½	70,940,960	8s. 4d. to £1 5s. per 100 acres.
Ashburton	586,000	1,170	27,500	0 11½	78,000,000	About £3 per mile of race.
Geraldine	71,212	260	9,010	2 6½	29,520,000	About 7d. per acre, including a rate for payment of principal and interest on loans, and a rate for maintenance.
Waimate	28,000	130	5,990	4 3	7,200,000	Races are maintained by a small rate on the annual value of lands watered.

The sheep in the Provincial District of Canterbury, in April, 1897, numbered 4,379,249. In November, 1897, there were 46,622 horses, 97,386 cattle, and 33,204 pigs.

The district has a well-deserved reputation for the classes and splendid quality of its sheep. On the mountains and higher lands the merino still predominates; but on the richer low-lying ranges, hills, and plains the prevailing types are crosses between the merino and Leicester, Lincoln, Romney Marsh, and other breeds. In proof of the superior character of the flocks, pasturage, and climatic conditions in the Middle Island, the following percentages of lambing returns are quoted—these are “fair average returns, but much higher might have been exhibited”: Mountain native pasture—pure merino, 75·36; pure merino and Border Leicester, 88·94; English-grass pasture—crossbred and Border Leicester, 80·8; half-bred Border Leicester, 82·79; Border Leicester, 90·77; Lincoln, 88·08; Romney Marsh, 111·46; English Leicester, 93·34; Shropshire, 97·41; Southdowns, 96·87. It must be borne in mind that the flocks and herds are supported by the natural and artificial pastures without housing.

Owing to the development of the frozen-meat trade a great impetus has been given to sheep-breeding. The bulk of the prime meat exported from the colony is supplied by this district, with Marlborough, and commands the highest price in the London markets. In the year 1897 the number of carcasses frozen was 1,497,484, being over one-half of the total output of the colony in this line. Large quantities of preserved meat, tallow, bonedust, neatsfoot- and trotter-oil, are also produced annually.

The total quantity of frozen meat exported from Canterbury during the year ended 31st March, 1898, was 726,096 cwt., valued at £798,558. At Belfast, Islington, and Timaru, freezing-works are established, each containing a complete plant for carrying on the industry, as well as departments for curing, preserving, boiling-down, tallow rendering, fellmongering, and the manufacture of manures. The Belfast Company have at their command steam-power equal to 800-horse-power, and employ about 300 men. They have storage for 48,000 sheep, and can put through 4,000 a day. The Islington and Timaru works, which are owned by the Christchurch Meat Company, employ in all about 700 men, and have engines representing 1,028 horse-power. The former can put through 4,000 carcasses per diem, and have storage for 56,000 carcasses. The latter can deal with 4,000 carcasses in a day, and have storage for 75,000 carcasses. At Hornby there has recently been established by Messrs. Nelson Brothers (Limited) a well-equipped factory for freezing only, with engines of 300 horse-power, and a capacity of dealing with 1,000 sheep per diem. The factory has storage-room for 50,000 sheep.

Wool.

During the year ended 31st March, 1898, there were shipped at Lyttelton and Timaru 34,487,130 lb. wool, valued at £1,105,748; and to this must be added the amount (about 1,000,000 lb.), bought for manufacture by the woollen-mills in the district. The staple of the New Zealand wool, especially the long-wool and cross-bred, is remarkable for its freedom from breaks and other imperfections. The average clips are approximately as follows: Merino, 4 lb. to 7 lb.; quarter-breds, 6½ lb.; half-breds, 7½ lb.; three-quarters, 8½ lb.; Leicesters, 10½ lb.; Lincoln, 11 lb. From special flocks clips up to 25 lb. and 30 lb. are obtained.

Butter and Cheese.

Banks Peninsula and the rich tracts of country previously mentioned are excellently suited for dairy farming. The pasturage and climatic conditions are favourable, and a great increase in the production of butter and cheese may be looked for, more especially as housing and hand-feeding are in some districts unnecessary. A central co-operative dairy factory has been established at Addington, served by twelve creameries, situate at Marshlands, Oxford, Halswell, Springston, Doyleston, Little River, Ladbroke, Lakeside, Kaiapoi, Green Park, Brookside, and Ashburton, each capable of dealing with the milk of 1,000 cows. There are also very complete dairy factories at Taitapu, Sefton, Temuka, Southbrook, Belfast, Tinwald, and Le Bon's Bay, as well as a cheese factory at Flemington.

In 1895 the production of butter at the Canterbury factories alone amounted to 1,213,942 lb., and of cheese to 582,400 lb.

Timber.

The sawmilling industry finds its development chiefly in the Oxford, Little River, Mount Somers, and Waimate districts. The number of mills in Canterbury in 1896 was twenty-two, employing 232 hands, the horse-power being 318. The output in 1895 was 3,697,230 ft., valued at £17,608. The timber comprises birch, totara, red-and white-pine. The first-named is used chiefly for sleepers and fencing, the totara and pine for building purposes. Including the work done by the planing- and moulding-mills the value of all the manufactures under this head was £26,154.

Fruit.

The district is eminently adapted for the growth of a large variety of fruits, especially all that flourish in Great Britain. Attention has recently been directed to landing supplies of fruit in London; the attempts so far have proved satisfactory, and point to the possibility of a large trade being established.

Coal.

Brown coal is found at the Malvern Hills, Homebush, Whitecliffs, Springfield, Mount Somers, Albury, and various other places. Lignite is also commonly distributed. For the year 1897, the output from 12 collieries, employing about 53 hands, was 13,710 tons, bringing the total amount raised from 19 collieries up to the 31st December, 1897, to 352,342 tons. The seams worked vary from 16 ft. to 2 ft. 3 in., the average width being 8 ft. At Acheron, near Lake Coleridge, a true anthracite is found, the other pits being of brown coal or lignite.

Building-stones.

The building-stones of Canterbury comprise some excellent varieties. The Halswell quarries produce an exceedingly hard and close-grained stone of a dull leaden-grey colour. Granular trachytes are obtained from Governor's Bay, Lyttelton; porphyrites at Malvern Hills; good limestone at Malvern Hills, Waikari, Mount Somers, and various other places; bluestone rock is found at Timaru suitable for millstones. There is abundance of limestone in North Canterbury, Mount Somers, Castle Hill, and various other parts, which is well adapted for making lime.

Fisheries.

Deep-sea fishing is carried on from Lyttelton and Akaroa, the kinds of fish chiefly caught being proper (hapuku), ling, conger, moki, butterfish, barracouta, soles, whiting, red-cod, herrings, guffy, and garfish. From Lake Ellesmere and the river estuaries excellent flounders are obtained. In 1896 there were employed on the lake and along the coast 68 boats, manned by 105 men.

Trout thrive amazingly in the rivers and fresh-water lakes, affording excellent sport.

Manufactories.

Excluding mines and quarries, the total number of manufactories in Canterbury in 1896 was 448, employing 4,944 males and 1,110 females.

The total value of manufactures for 1895 was £2,629,822, and the value of land, machinery, and buildings was £1,178,112. Included in the above were 20 printing, 9 agricultural-implement, 27 coach-building and -painting, 29 fellmongering, tanning, currying, and wool-scouring establishments, 5 ship- and boat-building works, 12 sail- and oilskin-factories, 3 woollen-mills, 5 clothing, 17 boot-and-shoe factories, 4 rope-and-twine works, 5 flax-mills, 5 boiling-down, meat-preserving, and freezing works, 14 cheese- and butter-factories, 32 grain-mills, 3 fruit- and jam-making works, 16 breweries, 10 malt-houses, 30 aerated waters and cordial works, 6 sauce- and pickle-making factories, 5 soap- and candle-works, 22 sawmills and sash-and-door factories, 4 gasworks, 15 brick, tile, and pottery manufactories, and 10 iron- and brass-foundries.

Libraries and Churches.

As an indication of the progress of the district, it may be noted that there were in April, 1896, seventy-three public libraries, mechanics' institutes, and scientific institutions, with a membership of 3,647; and 277 churches or chapels, attended by 42,615 persons.

Educational Institutions.

Primary Schools.—The district is divided into two parts, termed North and South Canterbury, each presided over by an Educational Board. Under the control of the Boards schools have been established throughout the whole country wherever population warrants their erection.

The number of children attending the public primary schools in Canterbury, on 31st March, 1898, was 26,265. Average daily attendance, 22,348. Number of teachers—males, 287; females, 433: total, 720. Number of schools, 267.

There is a Normal School at Christchurch for the training of teachers.

Secondary Education.—For the further education of children ample provision has been made by the establishment of secondary schools. The principal schools of this class are the Boys' and Girls' High Schools at Christchurch, Rangiora, Ashburton, Timaru, Waimate, Akaroa, and Temuka. For more advanced students Canterbury College, Christchurch, is available. This institution was founded and endowed by the Provincial Government in 1873. It is presided over by a Board of Governors. The teaching staff comprises eight professors and three lecturers, and the number of students attending lectures is over 300.

It should be recorded here that the Provincial Government of Canterbury was fully alive to its duties as regards higher education. It made reserves for the purpose of endowment for the following objects: (1) College, 101,640 acres, reserved June, 1873; (2) technical science, 108,000 acres, reserved July, 1873; (3) School of Agriculture, 100,950 acres, reserved June, 1873; (4) Boys' High School, 9,220 acres, reserved at various dates; (5) Classical School, 8,953 acres, reserved at various dates. To these were subsequently added the following: (6) Girls' High School, 2,578 acres, reserved January, 1878; (7) Medical School, 5,000 acres, reserved December, 1877.

Primary Schools.—There are numerous private schools, independent of the State, the chief amongst them being Christ's College, Christchurch, connected with the Church of England. The Roman Catholics support schools of their own in Christchurch, Lyttelton, Timaru, Addington, Papanui, Halswell, Ashburton, Arowhenua, and Waimate. There are besides, in Christchurch, some excellent private boarding- and day-schools for both boys and girls.

Other Institutions.

Canterbury has the advantage of possessing many flourishing public institutions. The School of Art, Christchurch, was established by the College Governors in 1882; the Art Gallery owes its origin to the Art Society, the site being the gift of the Government. The Canterbury Agricultural College, Lincoln, also founded by the College Governors, is surrounded by 660 acres of land. The commodious buildings, which cost over £20,000, provide accommodation for the Director and teaching-staff, and for forty-five students. The fees are on a low scale. The farm buildings are complete, and include a well-equipped dairy. Instruction is given in agriculture, chemistry, botany, mechanics, physics, surveying, &c.

The Public Library, Christchurch, under the control of the College Governors, contains reading-rooms, a circulating library of 17,656 books, and a reference library of 11,165 volumes. Numbers of magazines and newspapers are provided. The number of subscribers is 1,800, and the average daily attendance between 700 and 800.

The Museum, Christchurch, is a handsome pile of stone buildings; the collections are large and varied. They are separated into two groups: (1) Those from New Zealand; (2) those from foreign countries. In the New Zealand department the skeletons of whales and moas, as well as the collections of shells (tertiary and fossils) and rocks, are specially good; and the Maori collection, exhibited in a Maori house, is also of considerable interest. In the foreign department, the geological, mineralogical, and ethnological collections are the most extensive, but there is also a good illustrative series of Egyptian and Roman antiquities, as well as of the remains of prehistoric man in Europe and America.

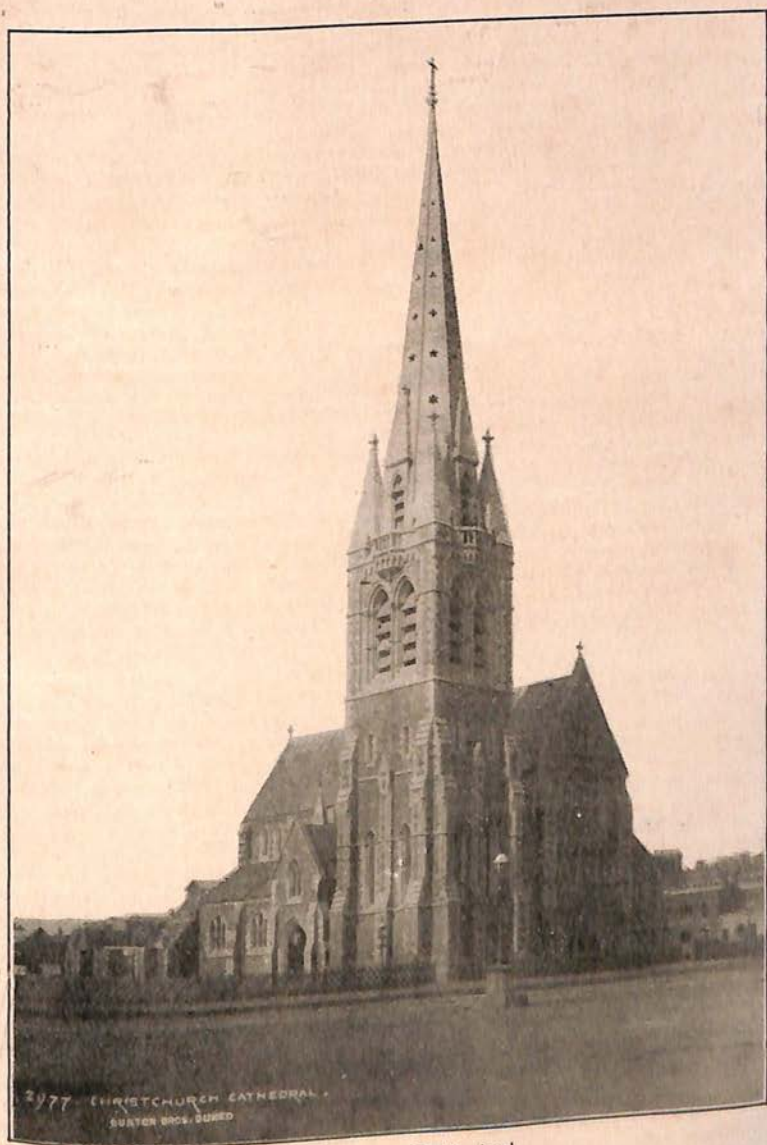
This institution owes its origin and success to the foresight, skill, and energy of the late Sir Julius von Haast, and to the munificence of the Provincial Government.

The philanthropic institutions embrace the Christchurch, Akaroa, Ashburton, Timaru, and Waimate Hospitals; the Sunnyside Asylum for the Insane; the Rhodes Convalescent Home; the Memorial Home for the Aged at Woolston; the City Mission and Destitute Men's Home, Christchurch; the Deaf-and-Dumb Asylum at Sumner; the Orphanage, Lyttelton; the Industrial School at Burnham; and the Mount Magdala Asylum, Samaritan Home, and St. Mary's Home, in the vicinity of Christchurch.

Towns.

Christchurch, the capital city of the Canterbury District, is situated on the plains. It is practically level, laid out in rectangular form, two miles by one mile and a quarter, and is intersected diagonally by a street. The streets are 66 ft. in width. There are numerous open spaces, including the Cathedral Square in the centre, and Cranmer and Latimer Squares. The Avon, a pretty stream, overhung by willows, runs through the town, presenting from all points charming vistas. The city is surprisingly English in its appearance, architecture, and surroundings. The central portion, where stands the Cathedral, Government offices, and other substantial structures, has a handsome, well-built look. Other parts contain fine public buildings, such as the Museum, Canterbury College, High Schools, &c. The whole is admirably set off by Hagley Park, 400 acres in extent, the Domain and Botanical Gardens, 79 acres, Lancaster Park, the Town Belts, and other public and private gardens and plantations. The suburbs can show many handsome houses and beautifully kept grounds.

The city is surrounded by the populous boroughs and districts of Sydenham, St. Albans, Linwood, Papanui, Woolston, &c. The population of the city was at the last estimate (March, 1898) 17,259, in 3,912 houses; including the adjacent boroughs and other suburbs the population amounts to 51,330. Tramways connect the city with the suburbs of Addington, Sydenham, and Papanui, and with the seaside villages of New Brighton and Sumner. The city has been drained at considerable expense, the sewage being conveyed three miles and discharged on the sand wastes near the sea. A pure and copious water-supply has been provided by nature, and is obtained by artesian wells. The affairs of the municipality are controlled by the City Council, presided over by the Mayor. Christchurch is the centre of trade and commerce for



Christchurch Cathedral.

the North Canterbury agricultural and pastoral country, and the head-quarters of many manufacturing industries, including carriage, boot, and clothing-factories, flour-mills, breweries, meat-preserving and -freezing, biscuit, planing and moulding, bicycle, and other works.

There are large and well-equipped show-grounds at Addington.

Recreation and amusement are provided for by the Theatre Royal and various public halls, the famous Riccarton racecourse, the numerous cricket and football grounds, &c., while boating men have the River Avon and the Heathcote estuary.

Christchurch is connected with the outside world by Port Lyttelton, seven miles distant. The railway-tunnel of $1\frac{1}{2}$ miles in length, through the Port Hills, is on this line. Christchurch is not only the centre of the splendid Canterbury Plains, but is also one of the chief railway centres of the colony. Addington railway-workshops are extensive and fully equipped.

Lyttelton, the chief port of the district, is situated on the northern shores of the inlet of that name, sometimes called Port Cooper. The surrounding country consists of high precipitous hills, which separate the harbour from Christchurch and the plains; but by the construction of the railway and tunnel the natural difficulties have been overcome, with the result that the whole of the imports and exports of northern and central Canterbury pass through Lyttelton. The origination and accomplishment of this great engineering work is due to the late William Selson Moorhouse, at that time Superintendent of the Province. The natural advantages of the port have been enhanced by reclamation and harbour-works, which include two breakwaters, 2,010 ft. and 1,400 ft. in length respectively, extending from Officer and Naval Points, enclosing about 107 acres; long lengths of wharf accommodation, 10,041 ft.; a patent slip for ships up to 400 tons; and a splendid graving-dock 450 ft. long, width on top and bottom 82 ft. and 46 ft. respectively, the entrance being 62 ft. wide, well equipped with machinery and all requisites for repairs. Ships drawing up to 25 ft. can berth alongside the spacious wharves and sheds. The railway, electric-light, machinery, and appliances are available throughout, which renders loading and unloading practicable both by day and by night. As an indication of the volume of trade dealt with at the port, it may be noted that for the year ended March 31, 1898, the imports were valued at £1,349,318 and the exports at £2,143,251. The town nestles on the side of the range, the streets being generally steep, flanked by solid stone buildings; and a background of green spurs and bold rocky faces gives to the whole a charming and picturesque appearance. The water-supply is obtained from artesian wells on the Christchurch side of the hills. To Christchurch there is a bridle-track over the range, and a carriage-road *via* Sumner. The harbour is well defended by fortifications and batteries on Ripa Island and the mainland. The population, according to the last estimate, was 4,053, with 778 houses.

Timaru, the third town in importance, is situated on the coast and railway-line between Christchurch (100 miles) and Dunedin (131 miles). It has a well-constructed artificial harbour, the port of shipment for the agricultural and pastoral districts of Geraldine, Timaru, and Waimate. The harbour is enclosed by a breakwater built of blocks of concrete; a rubble wall—the North Mole—starts from the shore a quarter of a mile away to the north, and extends easterly to a point 350 ft. from the breakwater. The enclosed space is 50 acres. During the year ended March 31, 1898, the value of goods imported here was £109,730 and of produce exported £435,752. The town is picturesquely situated on rolling hills overlooking the sea. The streets are irregular, but the public and commercial buildings, churches, and private houses are generally well and handsomely built of stone. The chief industries are meat-freezing, saw-milling, flour-milling, &c. The town has a good high-pressure water-supply, and is connected by well-made roads with the surrounding districts, and by rail with Fairlie, the route to the Mackenzie Country and Mount Cook. The population in 1897 was 3,800, with 728 houses.

Of other towns in Canterbury the following deserve mention: Rangiora, population, 1,871, with 390 houses, twenty miles from Christchurch by northern line of railway, is situated in the centre of a fine farming country, and possesses manufactory, including seven flax-mills, flour-mill, and brewery. The town and neighbourhood are much benefited by plantations.

Kaipoi, on the Waimakariri, population 1,880, about fourteen miles from Christchurch by the northern railway-line, lies in a rich farming country, rendered pleasing and attractive by the extent and variety of plantations and gardens. There are factories and various industries, including ham- and bacon-curing, saw-mills, brewery, and agricultural-implement works. Here also is the famed Kaipoi Woollen-mill, which employs 600 hands when trade is brisk. The Waimakariri is navigable for small vessels to the centre of the town.

Ashburton, the newest of the towns, has a population of 2,100, with 485 houses, and is fifty-three miles from Christchurch on the southern trunk line. It is a well-built town, with extensive and beautiful recreation-grounds and gardens. It owes its existence to the settlement of the plains, the surrounding country being well adapted for farming. There are two breweries, a cordial-factory, three flour-mills, gasworks, ironworks, woollen-mill, brickworks, &c.

Geraldine, population 841, is situated on the Waihi River, four miles from Orari Railway-station, about eighty-six miles south-west from Christchurch. It is a neat and pretty town, in a first-class farming district, and has a beautiful park of native forest-trees.

Temuka, eighty-eight miles from Christchurch, on the southern railway-line, is a well-built town, with good agricultural land all round. It possesses three flour-mills, a butter- and cheese-factory, brewery, foundry, fellmongery and paper-mill. There is a beautiful park and domain. The population, with that of Arowhenua, is 1,449 persons.

Waimate, population 1,500, is situated on the Waihao Forks Railway, about four miles from Studholme Junction, some 111 miles from both Christchurch and Dunedin. This town is the centre for an extensive back-country, and a splendid agricultural area. It owes its origin to the sawmill industry of the Waimate bush. Industries: saw-milling, flour-milling, &c.

Akaroa, population 630, situated on the noble harbour of that name, was founded in 1840, in the first instance by the French. It is a quiet, picturesque little place, much patronised by Christchurch residents and others as a summer resort and watering-place. It was here that Captain Stanley hoisted the British flag on 11th August, 1840, when he took possession of the Middle Island on behalf of the Crown, forestalling the French by a few hours only.

THE OTAGO LAND DISTRICT.

J. P. MAITLAND, Commissioner of Crown Lands.

JOHN HAY, Chief Surveyor.

Boundaries and Area.

The Otago Land District lies between the 44th and 47th parallels of south latitude, and extends from 167° 20' to 171° 10' of east longitude. It is bounded on the north by the Canterbury Land District; on the south-east and south by the ocean; on the west and south by the Waikawa, Mokoreta, Slopedown, Waikaka, Chatton, Wendon, Waikaia, Gap, Rockyside, and Kingston Survey Districts, the western and southern shores of Lake Wakatipu, the Mid-Wakatipu, Mavora, Swinton, Eglinton, Arran, and Doon Survey Districts, and a straight line from the north-east corner of the last-mentioned district to the nearest arm of George Sound, and by George Sound to the ocean; and on the north-west by the ocean to Big Bay.

The district measures about 160 miles from Milford Sound on the west coast to Waikouaiti Bay on the east coast, and the same distance from north to south. Its area is 9,004,800 acres.

Physical Description.

The country generally is mountainous, the highest land being to the north-west, and culminating in Mount Aspiring, 9,960 ft. above the level of the sea.

The west coast mountains are remarkably rugged and grand; and of the thirteen sounds that pierce this coast, three are within the limits of the Otago Land District, the remaining ten being on the west coast of the Southland District. These three are Milford Sound, Bligh Sound, and George Sound. Milford Sound, though only eight miles in length, contains some of the grandest scenery in the world; and fourteen miles inland from its head is the great Sutherland Waterfall, 1,904 ft. high, possibly the highest waterfall known. Bligh Sound is smaller than Milford, and not nearly so interesting; but George Sound is larger, and very picturesque.

A tourist track has been opened from the head of Te Anau Lake to Milford Sound, and a practicable route has also been discovered, and a track formed, from the north-west arm of the middle fiord of Te Anau Lake to the head of George Sound.

Te Anau Track.—A guide works on this track from December to April. He carries a fortnightly mail between Lake Te Anau and Milford Sound, and also meets each trip of the "Tarawera." There is ample accommodation for tourists who wish to make the journey in short stages, as there are huts erected at six different places on the track.

For nearly one hundred miles inland from the west coast the country is very mountainous, but at a distance of sixty or seventy miles from the south-east coast-line it begins to get gradually lower, taking the form of rolling hills and downs along the sea-shore.

Rivers and Lakes.

The largest rivers are the Clutha, Taieri, and Waitaki: the first-named drains Lakes Wakatipu, Wanaka, and Hawea; the last, Lakes Ohau, Pukaki, and Tekapo, in the Canterbury District. Te Anau, the largest lake in the Middle Island, lies partly in the Otago and partly in the Southland District. The dimensions of these lakes are as follows:—

Lakes.	Length in Miles.	General Breadth in Miles.	Area in Square Miles.	Height above Sea-level in Feet.
Te Anau ...	38	1 to 6	132	694
Wakatipu ...	50	1 to 3½	114	1,069
Wanaka ...	29	1 to 3	75	928
Hawea ...	19	3	48	1,062
Ohau ...	11	1 to 3	23	1,720
Pukaki ...	11	2½ to 5	31	1,588
Tekapo ...	15	1 to 3½	32½	2,325

These lakes are situated in mountainous country; they are of glacial origin, and all very deep.

The Clutha River is the largest in New Zealand, and is estimated to discharge over 1,000,000 cubic feet per minute. It has a rapid current, but is navigable for small steamers for a distance of forty miles from its mouth. The Waitaki is not a navigable river. For some seventeen miles from its mouth the Taieri River is affected by tides, which run up one branch into Waihola Lake, and up the other branch as far as Greytown.

There is a small steamer on Waihola Lake, and another on the Taieri River at Henley. During the summer season both run excursion trips to the mouth of the river when required. The distance in each case is about eight miles.

Plains.

There are some considerable areas of tolerably level land in the interior, the largest being the Maniototo Plains, the Idaburn, Manuherikia, and Upper Clutha Valleys. Their dimensions are approximately as follows: Maniototo Plains, length, twenty-eight miles; average breadth, ten miles; Idaburn Valley, twenty-five miles by four miles; Manuherikia Valley, thirty-five miles by four miles; Upper Clutha Valley, thirty-three miles by five miles.

The Taieri Plain, nearer the coast, is about the same size as the Idaburn Valley, and is very fertile. Other plains are the Waitaki in the north, the Tokomairiro, the Strath-Taieri, the Tapanui, and the fertile Inch-Clutha, lying between the two branches of the Clutha River, and consisting entirely of alluvial deposit. There is also a good deal of low country, chiefly rolling downs, on the south-west side of the Clutha near the sea.

Forests.

The forest-land lies mostly along the sea-coast, the largest area of bush being Tautuku Forest, about forty miles in length and fifteen miles in breadth. The western part of this forest is in the Southland District. The other principal forest areas are in the following localities, viz.: north of Dunedin, east of the Tapanui mountains, in the upper valley of the Waikaia River, and towards the north-west coast.

The forests of Otago contain a large variety of useful timber, both hard and soft wood; some being suitable for building purposes, while other varieties are highly ornamental, and much prized for cabinet-work.

Building Stones.

Building-stones of good quality are found in various places throughout Otago. The Port Chalmers quarries afford an inexhaustible supply of bluestone, a basaltic stone of great hardness and durability; and the neighbourhood of Hindon furnishes a bluestone of superior quality. A hard freestone of excellent quality is found at Waikawa, where there is a large hill of it close to the water's edge. Blocks of very great size can be obtained. There is also a freestone of superior quality on the Hon. W. J. M. Larnach's property on the Peninsula. A dense dark granite is obtainable on Ruapuke Island; specimens, both tooled and polished, may be seen in the base and pilasters of the new Government Life Insurance Buildings at Dunedin. A soft white building-stone—the well-known Oamaru limestone—is found in large quantities along the railway-line near Oamaru, from whence a good deal is exported to other parts of New Zealand and to the neighbouring colonies. A similar kind of stone is found at Otekaieke, about two miles from the railway-station, and it may be interesting to note that during the years 1891–93 about 3,000 tons of stone were sent from the Otekaieke quarries to form the facings of the Melbourne Fish-market.

Limestone for Burning.

Limestone is found in the following places: Oamaru, Otekaieke, Otepopo, Waihemo, Maniototo Plains, Waikouaiti, Lower Harbour, Peninsula, Waiholo, Millburn, and Wakatipu.

The Millburn Lime and Cement Company burn large quantities of lime at their Millburn works, from whence it is sent to all parts of Otago, for building purposes, gasworks, &c. It is also largely used in farming, and the productiveness of the Tokomairiro Plain has been greatly increased of late years by its application to the soil. Large cement-works belonging to the same company have been open for some years on the reclaimed land in Otago Harbour, near Dunedin. The cement manufactured at these works is considered fully equal, if not superior, to the best imported, and is largely used in building and other constructive works.

Coal and Lignite.

No first-class coals have yet been discovered in Otago suitable for ocean-going steamships. In the southern portion of the district and in part of Southland thin seams of coal of a bituminous character exist, but so far nothing of a commercial character has been found. These coals are of Mezzozoic age. First-class brown coals are worked in several parts of Otago and Southland, the principal seats of the industry being Slag Point, Green Island, Kaitangata, and Nightcaps.

Beds of lignite are also found in numerous localities, chiefly round the margins of the old lake-basins and along the courses of the older river-valleys, and are worked on a small scale to supply local demands.

The output of coal and lignite in Otago and Southland for 1897 was 255,996 tons.

Climate.

The climate of Otago varies greatly in different neighbourhoods, and sometimes a distance of a few miles only separates districts very dissimilar in this respect. A large area in the interior of Otago has what may be called a dry climate. This area includes the Maniototo Plains, the Idaburn and Manuherikia Valleys, and extends to Lakes Wakatipu, Wanaka, Hawea, and Ohau on the west and north, and to the Waitaki River on the north-east. From Oamaru the direction would be across country to the Lammerlaw Ranges, and thence to Mount Benger and the southern end of Lake Wakatipu. This part of the country is well adapted for sheep of all kinds, especially merinos. Some of the runs in the hilly country are capable of carrying 20,000 sheep.

West Coast.

In marked contrast to central Otago is the West Coast District, which may be described as having a wet climate. Not that the number of wet days in the year is very great, but it is subject to very heavy rains from the north-west, the fall generally exceeding 100 in. per annum. But, although wet, the climate is mild, and the vegetation is consequently luxuriant. The only settlers of this part of the country are Mr. and Mrs. Sutherland, who keep a house of accommodation for tourists at the head of Milford Sound. There are very few visitors to the Sounds during winter, but in summer the tourist traffic is considerable. Towards the south-east and south coasts of the district the climate is moist, being somewhat similar to that of Dunedin, where the average rainfall is 35 in., distributed over 163 days in the year.

Fruit.

There are some fine fruit-growing districts in the valley of the Clutha, from below Roxburgh right up to Lake Wanaka. The summers are dry and warm, and the soil suitable. Apricots, peaches, &c., come to maturity fully a month before they do at Dunedin, and grapes ripen in the open air. There is a great future for this neighbourhood in the growing of those varieties of fruit which agree with and thrive in a dry climate. The grape might be cultivated either for wine-making or for the table, and some varieties could be made into good raisins. The hops grown at Alexandra are far superior to any grown in other parts of the colony, and quite equal to the best Californian. The dryness of the atmosphere is favourable for preserving all kinds of fruit, while the Otago Central Railway will bring the neighbourhood into direct communication with a market.

Crops.

Cereals of all kinds do very well over nearly the whole of the provincial district, which includes Southland. The following are the agricultural statistics:—

Total area under cultivation, including sown grasses and fallow land, 2,194,815 acres. Corn crops sown or intended to be sown this season, comprising wheat, oats,

barley, rye, maize, peas, beans, 286,719 acres; land broken up and grassed, 1,320,798 acres, and 2,162 acres in clover, while 252,538 acres have been surface-sown with grass without the land being first broken up; green-crops, comprising potatoes, turnips, mangolds, rape, beet, carrots, &c., 292,862 acres; plantations, &c., including private gardens, market gardens, orchards, and vineyards of a quarter-acre and upwards, 11,030 acres, and 33,459 acres ploughed but not planted. The area in tussock, or native grass, is 8,283,880 acres.

	Acres.	Yield per Acre.	Total.
Wheat for threshing ...	80,445	22 bushels	1,776,595 bushels.
Oats " ...	196,946	31 "	6,169,717 "
Barley " ...	7,936	24 "	192,558 "
Rye " ...	1,320	20 "	25,753 "

Stock.

The total number of sheep in Otago Provincial District, which includes Southland, on the 30th April, 1897, was 4,021,065, of which number about 700,000 were merinos. On an average, about one-third of the flocks consist of breeding-ewes. The shearing is mostly done by hand, but the Wolsley shearing-machines have been introduced on about ten stations, the number of machines in each wool-shed varying generally from ten to fifteen, though there is one shed at Benmore, near Lake Ohau, where there are twenty-eight machines driven by a turbine.

In the Otago Provincial District, which, as above stated, includes Southland, in November last there were 53,016 horses; 37 mules and asses; 194,480 cattle; and 25,000 pigs.

The rabbit-pest is still a severe tax on the stockowners; the number of skins exported last year for the whole colony being 8,099,334, nearly the whole of which—namely, 7,323,711—came from Otago; the monetary values being respectively £47,472 and £42,264.

Freezing Establishments.

There are nine meat-freezing and preserving-works in Otago. The principal freezing establishments are at Oamaru, at Burnside, and at Port Chalmers. At Oamaru there are two Bell-Coleman machines, and a 60-ton Hercules refrigerator, capable of freezing 1,200 sheep a day, and there is storage-room for 20,000 carcasses. At Burnside there are two Haslam machines, both driven by steam. One can supply 40,000 cubic feet of cold air per hour, and the other 60,000. The Burnside works can freeze 800 sheep a day, and have storage-room for 16,000 carcasses. The Port Chalmers freezing-works, erected in 1896 by the Otago Dock Trust, cost £4,500. They are used principally for the storage of butter prior to shipment, but the freezing-chambers have also been used for sheep, rabbits, and fish. The refrigerating machinery includes a 12-ton Hercules refrigerator. The capacity of the building is 30,000 cubic feet, and 50 tons of butter can be handled per week.

Woollen-mills.

There are five woollen-mills at work in Otago, employing some 800 hands. The amount paid in wages is about £51,300 per annum, and the machinery is 800-horse power. £64,000 worth of wool and other materials are used per annum, and the turn-out of manufactured goods exceeds £140,000 yearly. The woollen industry in Otago is of greater magnitude than in any other district of New Zealand.

Besides supplying local needs Otago Provincial District exported last year 24,533,018 lb. of wool, having a value of £780,678.

Clothing-factories.

In clothing-factories, also, Otago takes a prominent place, having nine, employing 700 hands, whose wages amount to £28,000 per annum.

Dairy-factories.

Otago takes also a good position as regards cheese- and butter-factories and creameries, whether in respect of the number of hands employed, wages paid, or the value of the annual output, which amounts to about £93,875. In April, 1896, there were forty-four factories, and new ones are being started from time to time. From Port Chalmers last year were shipped nearly 2,000 tons of cheese, and 200 tons of butter.

Gold Production.

Otago produces about one-third of all the gold taken out in New Zealand. The number of Europeans engaged last year was 3,399, and number of Chinese, 966.

Gold is found very generally distributed throughout Otago, except in the southern portion of the district. The principal localities are: Clutha Valley, Tuapeka, Shotover, Cardrona, Tinker's, St. Bathans, Mount Ida, Nevis, Bannockburn, and Maerewhenua.

Last financial year the Otago Provincial District produced 75,504 oz. of gold, having a value of £304,862.

Chief Towns.

The following are the chief towns of Otago, with their population, including all having 1,000 inhabitants and upwards: Dunedin, and suburbs, 48,672; Oamaru, 5,309; Port Chalmers, 2,100; Mosgiel, 1,450; Milton, 1,300; Kaitangata, 1,362; Lawrence, 1,010.

City of Dunedin.

Dunedin, the capital city of Otago, is situated at the head of Otago Harbour, which is divided into two parts—the upper and lower. The lower harbour is six miles long from Tairaroa Heads to Port Chalmers. The upper harbour, from Port Chalmers to Dunedin, is seven miles in length. Dunedin and Port Chalmers are also connected by railway.

Although the hills surrounding Dunedin are rather tame in character and outline, the city itself is picturesquely situated. The business part of it is on level land near the harbour, and the residences occupy the sloping hills which rise on the west side of the city. The city proper is about two miles and a half long by seven-eighths of a mile wide, and is bounded on the land side by what is called the Town Belt. This reserve averages one-fifth of a mile in width, and comprises 500 acres, a great part of which is virgin bush. A pretty road, called the Queen's Drive, has been laid out through the Belt from end to end, from which many fine views of the town and harbour can be obtained.

It is thirteen miles down the harbour to the Heads in a north-easterly direction, but the Ocean Beach, lying to the south-east, is only two miles from the centre of the city, and the favourite seaside resort—St. Clair—is about three miles. Trams run to both these places at short intervals. The city is also connected with the suburban boroughs, lying on the hills overlooking the town, by excellent cable-tramways. The Botanical Gardens to the north of the city are well laid out, the native bush contrasting with the cultivated parts. The Reservoir also, which is within easy walking distance, and the drive to Blueskin Bay, have many beauties.

Dunedin is well supplied with elementary schools, there being six large schools in the city proper, and eight more in the suburbs.

There is also in Dunedin a training-college for teachers. The students in training number eight men and thirty-seven women. They devote every fifth week during the session to practice in teaching and management of classes in the ten associated schools of the city and suburbs.

The School of Art and Design is in the same building as the Normal School, and has a staff of five teachers and a pupil-teacher.

The Otago Boys' High School stands on a commanding plateau 300 ft. above the business part of the city and the harbour. The school was opened on the 3rd August, 1863, in the building in Dowling Street now occupied as the Girls' High School. The new buildings were opened by Sir William Jervois, Governor, in February, 1885. The teaching staff, including the Rector, numbers ten; the attendance is 211.

The Otago Girls' High School was opened on the 6th February, 1871, with a roll of 78 pupils. The present attendance is 142, with a teaching staff of eleven. Otago holds the proud distinction of having established the first Girls' High School in the Australasian Colonies. Among the earnest band of workers who laboured to establish this first High School for girls the name of Miss Dalrymple stands pre-eminent, and will ever be held in grateful remembrance by the people of Otago.

The Otago University was founded in 1869, and opened in 1871. It is well housed in a handsome pile of buildings in the domestic Gothic style. There are four separate faculties in the University—viz., arts and science, law, medicine, and mining. The School of Medicine provides the full course for a medical degree of the University of New Zealand. There is a Medical Museum in the University buildings containing anatomical, pathological, and other preparations and models. The teaching staff numbers at present twenty-six professors and lecturers. The School of Mines occupies a separate (temporary) building. There are at present about sixty students going through the prescribed courses for the diplomas and certificates in the Mining, Metallurgical, Geological, Mine and Land-surveying and the Assaying Divisions. Of undergraduates keeping terms there are 234—viz., 206 men and 28 women. The University Library contains over 5,000 specially selected volumes, and is open to the public under certain conditions for purposes of reference. The Chemical and Physical Laboratories are well fitted up, and furnished with all necessary instruments and appliances. There are six scholarships tenable at the University, ranging in value from £15 to £30 per annum.

The public Museum, of which the Professor of Biology is Curator, is under the control of the University Council. It is situated in Great King street, about five minutes' walk from the University. There is an art gallery attached, which contains some good works of art. Up to the present time only the central portion of the original design has been erected.

The Dunedin Athenæum and Mechanics' Institute possesses a fine library of over 17,000 volumes, and a membership of over 1,000 subscribers. Besides the Circulating Library there is a Reference Library, and two good reading-rooms, well supplied with newspapers and magazines.

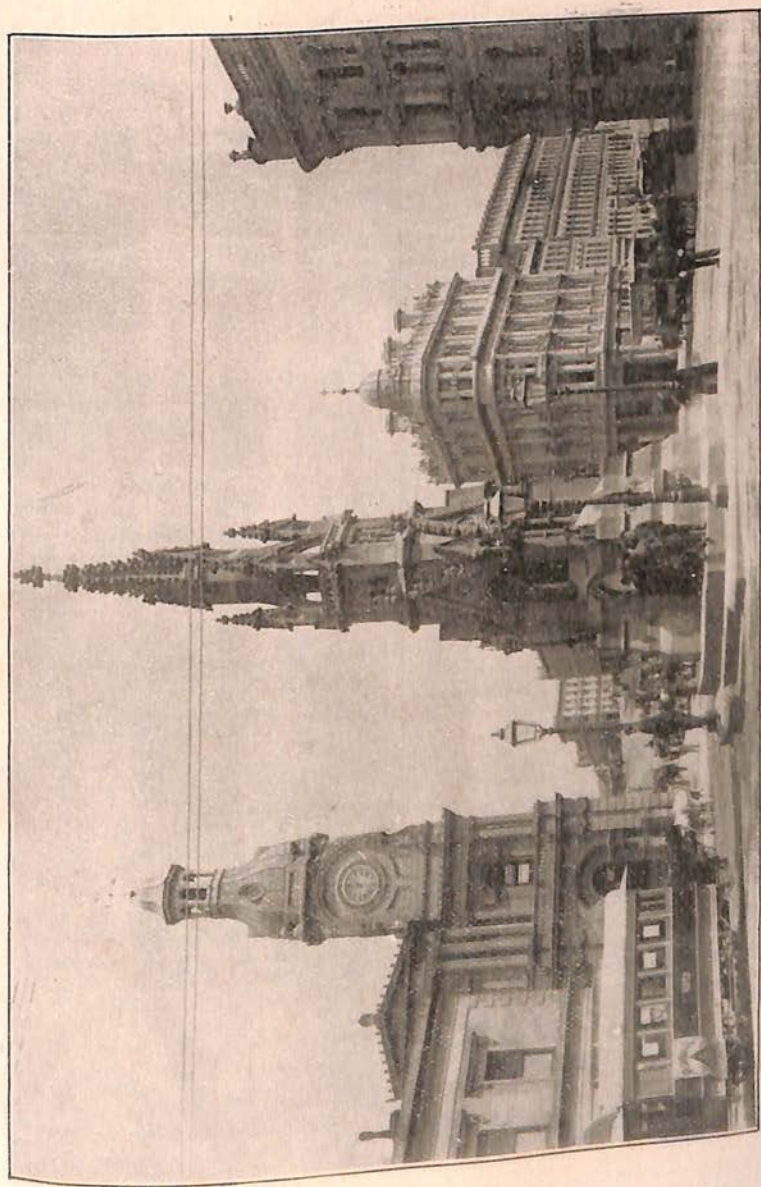
There are some fine specimens of architecture in Dunedin, the buildings for the most part having an air of permanence and solidity. Some of the churches are very handsome. The First Church, in Moray Place, and Knox Church, in George street, are both handsome stone structures, and St. Joseph's Cathedral (Roman Catholic) is built of stone in the decorated Gothic style. The portion at present constructed will seat 1,000 persons, and has cost £23,000.

The Cargill Monument, which was erected to the memory of the late Captain Cargill, the founder of the Otago settlement, stands in the Triangle, between the Customhouse and the Bank of New Zealand. It is an ornate specimen of early decorated Gothic.

Towns and Surrounding Country.

Port Chalmers (eight miles from Dunedin) situate on Otago Harbour, midway between the Heads and Dunedin, has a population of 2,100 inhabitants. It is the chief port of Otago, and possesses every accommodation for Home vessels, including dry dock, 80-ton sheer-legs, steam-hammer, and other appliances, besides several private foundries, coal-storage chamber, &c. The Port Chalmers graving dock is described in the article on page 56.

Leaving Dunedin by the northern railway, winding in and out through the hills which surround the town, and skirting the precipitous cliffs of the coast-line, the first station of importance reached is Waibati, a favourite seaside resort in Blueskin



Gargill Monument, Customhouse Square, Dunedin.

Bay; distance, seventeen miles. Fifteen miles beyond is Waikouaiti; population, 760; pleasantly situated on the Hawksbury lagoon, the centre of a flourishing farming country. The next place of note is Palmerston, forty-one miles from Dunedin, with 775 inhabitants. A branch-line leaves Palmerston and runs nine miles up Shag Valley to Dunback. Six miles further on the main line there is a branch to Shag Point, a coalfield, with two pits being actively worked.

Oamaru (seventy-eight miles) is the second town in Otago, having a population of 5,309. It is the centre of a large farming district, and has a good harbour, formed by a concrete breakwater, for the reception of ocean-going ships. The chief exports are wool and grain. A branch-line runs from the junction near Oamaru up the Waiareka Valley to Ngapara, seventeen miles, and Tokaraki, twenty-six miles from Oamaru, and another seven miles by road brings us to Livingstone.

Starting from Oamaru, and proceeding to Central Otago, *via* the valley of the Waitaki River, the first part of the journey is accomplished by rail across the fertile Papakaio Plains to Awamoko (ninety-six miles), and thence following up the Waitaki River past Duntroon to Kurow (120 miles). At Kurow the traveller leaves the railway and follows the course of the Waitaki through pastoral country to Rugged Ridges Station (133 miles); a little beyond Rugged Ridges the road leaves the Waitaki River, and crossing the Ahuriri Pass (141 miles), strikes the Ahuriri River, which it follows up past Omarama Station (158 miles) to the junction of Longslip Creek; it then ascends this creek until Lindis Pass saddle is reached (172 miles), at a height of 3,185 feet. Here begins the descent to the Clutha Valley *via* Morven Hills Station (181 miles) and Tarras Station (200 miles). From Tarras Station the road runs through settled farming country up the Clutha River, which is crossed by means of a punt at Newcastle (219 miles), and four miles more brings the traveller to Pembroke, on the southern shore of Lake Wanaka.

From Dunedin the main trunk railway runs southward to Invercargill, a distance of 130 miles. Passing through the Caversham Borough and tunnel the traveller reaches Burnside (five miles) and Abbotsford (six miles), industrial centres, with coal-mining, tanning, iron-smelting, and other works. Farther on is Wingatui, the junction of the Otago Central Railway; and ten miles from Dunedin is Mosgiel, a rising township with 1,450 inhabitants, noted for its woollen mills. The railway-line now skirts the Taieri Plain, an alluvial flat eighteen miles long by five miles broad; the most fertile portion of Otago. A branch-line from Mosgiel junction runs to Outram (nineteen miles), on the farther side of the Taieri Plain. Passing the smaller Townships of Greytown and Henley, and Lakes Waihola and Waipori, the line strikes Milton (thirty-six miles). Milton, in the middle of the Tokomairiro Plain, is a town of 1,300 inhabitants, with flour-mill, dairy-factories, flax-mill, pottery works, and tannery. The next place of importance is Balclutha (fifty-three miles), on the banks of the Clutha River, with flax-mills, dairy-factories, and chicory works; population about 925. Kaitangata, situated lower down the Clutha River, and connected by a branch-line, has extensive coalfields, and a population of 1,362. Leaving Balclutha, the main line runs through the Clutha downs, passing the small centres of Waitepeka, Warepa, Kaihiku, and Waiwera, and reaches Clinton (seventy-three miles), on the Waiwera stream, a favourite resort of anglers. The next station of note beyond Clinton is Waipahi Junction (eighty-three miles), on the Waipahi River, likewise a favourite fishing-ground. Further on is Gore (ninety-nine miles), on the Mataura River, in the Southland district. Gore is a fast-rising township of 2,500 inhabitants, with paper-mill, flour-mill, freezing-works, dairy factory, coal-mines, &c.

A branch-line from Waipahi follows up and crosses the Pomahaka River and connects Tapanui (ninety-six miles), Kelso (ninety-eight miles), and Heriot (102 miles).

The Otago Central Railway starts from Wingatui, crosses the Taieri Plain, and then winds round to the Taieri River, which it follows up to the present terminus at Hyde. In its course along the river it runs for some distance through a rocky gorge, but after crossing the Sutton Stream enters Strath-Taieri—a comparatively flat, open country. Near Hindon Station (twenty-five miles), in the Taieri Gorge, and Barewood (thirty-six miles), there are quartz-reefs being worked. In traversing the

Strath-Taieri the line passes the Blair-Taieri Village Settlement (forty-four miles), Middlemarch, a rising township (forty-eight miles), and reaches Hyde (sixty-four miles), the present limit, although the formation is well-advanced as far as Hamilton's. When this section is complete the Maniototo Plain will be tapped, and the extension of the line to Clyde presents no engineering difficulties. Central Otago has a great future before it, as in the opinion of experts it is naturally adapted for producing fruit of all kinds in perfection.

Another means of access to Central Otago is by the Clutha Valley.

Two miles beyond Milton the Lawrence branch leaves Clarksville Junction, runs up the Tokomairiro River and the gorge of Manuka Creek, and down to Waitahuna (fifty-three miles), and Lawrence (sixty miles), goldmining centres, with an aggregate population of 1,500. Gold was first discovered here in 1861, and the mines are still yielding freely. From Lawrence a coach runs to Beaumont (seventy-two miles), on the Clutha River. Crossing the Beaumont Bridge the road follows the west bank of the Clutha, passing numerous dredging-claims. At eighty-nine miles is Ettrick, and seven miles further on is Roxburgh—the Teviot—(ninety-six miles), a town of 450 inhabitants. Recrossing the Clutha River by the Roxburgh Bridge, and proceeding up the east bank, the traveller reaches Alexandra South (124 miles), at the junction of the Manukerikia River with the Clutha, and Clyde—the Dunstan—(130 miles), the chief town of Vincent County. The next place of importance is Cromwell (143 miles), at the junction of the Kawarau River with the Clutha. Cromwell is a small town of 550 inhabitants, and has a good bridge over the Clutha River. If the traveller wishes to pursue his journey farther he can either follow the road up the Clutha to Newcastle and Pembroke, on Lake Wanaka, or take the Kawarau Gorge road by way of the Crown Terrace to Queenstown, on Lake Wakatipu.

Queenstown, a picturesque township situated on the shores of Lake Wakatipu, has a population of 750, and is the centre of a large gold-mining district. The chief feature of Queenstown is the grand mountain and lake scenery in the neighbourhood, which attracts large numbers of tourists every year. There are two ways of reaching Queenstown—the one by the Clutha Valley and Kawarau Gorge, as above described, and the other by rail to Kingston, at the foot of Lake Wakatipu, and thence by steamer, which runs to suit the trains.

The Tautuku bush, in the south of Otago, has only lately been opened up, but already a large number of settlers are making their homes there. Starting from Balclutha the Catlin's River branch-line runs southwards to Romahapa (sixty miles) on the crossing of the main road to Port Molyneux, thence to Glenomaru (sixty-four miles), and Owaka (seventy miles from Dunedin), is nearly complete. The Catlin's-Waikawa main road is formed the whole way through, as are also numerous district roads, and the adjacent lands are being taken up as fast as they are thrown open.

Railways.

The principal lines are as follows: (1.) The main trunk line from Dunedin to Christchurch, with branches from Oamaru to Hakataramea, forty-three miles; and Oamaru to Ngapara and Tokoraki, twenty-five miles; also, Palmerston to Dunback, nine miles. (2.) The main trunk line, Dunedin to Invercargill, with branches, Mosgiel to Outram, nine miles; Milton to Lawrence, twenty-four miles; Stirling to Kaitangata, five miles; Balclutha to Owaka, eighteen miles; and Waipahi to Heriot, twenty miles. (3.) The Otago Central, from Wingatui to Kokonga, sixty-six miles twenty chains, a mile and a half below Taieri Lake, the line is open for traffic, and under platelaying to seventy-one miles thirty chains, and under formation to seventy-seven miles twenty chains.

Statistical.

The total estimated population of the Otago Provincial District on the 31st December last was 169,324.

Area of Otago Land District: Open land below 2,000 ft., 5,252 square miles;

forest-land below 2,000 ft., 1,919 square miles; open land, above 2,000 ft., 6,480 square miles; forest-land above 2,000 ft., 419 square miles; area of lakes, &c., 275 square miles: total, 14,345 square miles.

The following table shows the disposition of the land in the Otago District on 31st March, 1898:—

	Holdings.	Acres.
1. Crown lands alienated, comprising freehold land and vested reserves	...	2,683,128
2. Lands held on deferred payment	116	26,784
3. Lands held on perpetual lease	451	82,542
4. Lands held under occupation-with-right-of-purchase clause	94	17,378
5. Lands held on lease in perpetuity	533	140,011
6. Lands held under agricultural lease on goldfields	19	608
7. Lands held under Mining Districts Land Occupation Act	81	3,449
8. Lands held under village settlement, deferred payment	5	188
9. Lands held under village settlement, perpetual lease	42	934
10. Lands held under village settlement, lease in perpetuity	133	2,123
11. Lands held under village-homestead special settlement, perpetual lease	86	1,393
12. Lands held by special-settlement associations, lease in perpetuity	15	2,955
13. Lands held as improved-farm settlements	76	9,749
14. Lands held as small grazing-runs	265	517,279
15. Lands held under pastoral license, not including bush	246	4,049,383
16. Lands held under lease and license for miscellaneous purposes, exclusive of gold-mining	372	115,656
17. Lands acquired and disposed of as lease in perpetuity under Land for Settlements Act	286	33,898
18. Lands acquired and disposed of as small grazing-runs under Land for Settlements Act	3	3,667
19. Lands acquired and disposed of as miscellaneous licenses under Land for Settlements Act	39	766
20. Crown lands open for selection (including 1,333 acres under Land for Settlements Act)	...	72,068
21. Crown lands being prepared for selection	...	20,000
22. Land open for application under pastoral licenses	11	97,234
23. Lands held by aboriginal natives	...	16,140
24. Balance of Crown lands, including mining reserves, public reserves not vested, bush-lands, roads, barren country, &c.	...	1,107,467
25. Lakes, and Clutha and Taieri Rivers	...	176,000

Total area of district (14,345 square miles), 9,180,800

Item No. 1 includes 340,517 acres of vested reserves, of which about 26,470 acres have been sold, leaving a balance of 314,047 acres, a portion of which will probably be open for sale at a future date.

Tenants of lands included in 2 and 4 have the right of acquiring the freehold, as have tenants of 3 up to twelve years from the date of issue of the lease, and of 6 in the case of leases issued prior to the Act of 1891. There is no right of acquiring the freehold for tenants of lands included in 5, 11, 12, 14, 15, 16, 17, 18, and 19, and in the case of No. 13 the right of acquiring freehold applies to portions only.

The Crown lands proper are: (20), open for selection (see Crown Lands Guide), 72,068 acres; and (21), being prepared for selection, 20,000 acres.

Local Industries.

There is not space to give in detail particulars of the various local industries throughout Otago and Southland, but amongst others may be noticed the following: There are four bone-mills and artificial-manure factories, where substances that

might otherwise go to waste, or pollute the air and water, are turned to profitable account, and made to increase the fertility of the soil. The lime- and cement-works at Dunedin have already been mentioned. There are thirty brick-, tile-, and pottery-manufactories, the largest pottery-works being at Milton, where all kinds of useful household crockeryware are made. Twelve agricultural implement factories are in operation, and turn out annually a large supply. There are fourteen boot- and shoe-factories; six boat-building, eighteen coach-building, twenty-eight fell-mongering, tanning, and wool-scouring establishments; twenty-two aerated-water and cordial manufactories, seventeen breweries, five coffee and spice works, three fruit- and jam-factories, one ink-making establishment, three paper-mills, six rope- and twine works, one soap- and candle-making establishment, six gasworks, and fifty-one sawmills and door- and sash-making factories. There are also twenty-four foundries, including brass-founders and copper-smiths, beside stove and range manufactories, iron-rolling works, and works for making every description of engineering and mining machinery and appliances; and there is a piano manufactory in Dunedin, which has been open for the last eleven years. During that period 210 pianos have been made and about 180 sold. The types manufactured are cottage pianos and upright grands, at prices ranging from thirty to sixty guineas. The present output is from twenty-five to thirty per annum.

Besides the above there are eighteen bacon-curing establishments, eight fish-curing and preserving works, two rabbit-preserving works, twenty-three grain-mills, six sugar-boiling and confectionery works, six malt-houses, two colonial wine-making establishments, three sauce and pickle factories, one vinegar works, one glue factory, two boiling-down works, three cooperages, four woodenware factories, six chaff-cutting establishments, one paper-bag and box factory, one tobacco-pipe factory, six tinware factories, twenty-nine printing offices, four basket and perambulator factories, two brush and broom factories, one cutlery factory, four cycle factories, two saddlery and harness factories, one portmanteau factory, eight sail and oilskin factories, thirteen furniture factories, four Venetian-blind works, two starch manufactories, four chemical works, one hæmatite paint factory, one sheep-dip factory, one match factory, two flock-mills, three cleaning- and dyeing-works, two waterproof factories, three hat and cap factories, three stocking-weaving factories, one bag and sack factory, seven flaxmills. Also the following, which have been more fully described in preceding paragraphs—namely, nine meat-freezing and -preserving works, four woollen-mills, nine clothing factories, forty-four butter and cheese factories: making a total of 516 industrial establishments, employing 7,055 persons. Approximate value of manufactures yearly, £2,153,473.

THE SOUTHLAND LAND DISTRICT.

D. BARRON, Chief Surveyor.

Physical Features.

The Southland District, comprising the Counties of Southland, Wallace, Fiord, and Stewart Island, bounded on the north and east by the Otago District, and on the south and west by the Tasman Sea, may be roughly said to lie between south latitudes 45° and 47° and east longitudes 166° 15' and 169° 15'. For administrative purposes, however, the Snare, Auckland, Enderby, Campbell, Antipodes, Bounty, and all other islands within the limits of the colony south of the 47° parallel of south latitude are included in it.

Area, Nature, and Disposition of Lands.

The total area of the district, including Stewart Island, but exclusive of Solander, Ruapuke, and the other small islands enumerated above, is 6,966,592 acres, of which 500,000 are covered with bush. The bulk of the bush-land lies between the lakes and the south and west coasts, in the neighbourhood of Forest

Hill, Hokonui, Waikawa, &c. The timbers of commercial value are totara, rimu, miro, matai, rata, and kamahi, in mixed bushes; but *Fagus fusca* and other beeches predominate on the high lands between the lakes and the firds on the west coast.

The open land in its natural state carries tussock and snow-grass, fern, flax, and manuka, &c., and there is a very considerable area of marsh-land, interspersed here and there with peat bogs.

The disposition of the land is as follows:—

	Acres.
Crown lands alienated to date	1,555,680
Lands held on deferred payment	28,238
Lands held on perpetual lease	34,339
Lands held on lease in perpetuity	66,390
Lands held in occupation with right of purchase	23,082
Land held under "The Mining Districts Land Occupation Act, 1894"	1,151
Village-homestead special settlements	683
Improved-farm special settlements	4,907
Small grazing-runs	57,816
Pastoral runs	1,284,546
Endowments and miscellaneous purposes	589,986
Open for selection	255,575
Under preparation for settlement	23,000
Pastoral runs open for lease	1,164,230
Held by aboriginal natives	11,890
Lands of small value not open for sale	511,969
Barren mountain-tops, &c.	1,353,210
Total area	6,966,592

The most striking feature of this district is the number of well-defined rivers and valleys, the latter often widening out to such an extent as to form very extensive plains. Commencing with the eastern side, the Mataura, Oreti (or New River), Aparima (or Jacob's River), and Waiau are the most prominent illustrations of this; but these rivers by no means exhaust the list, as they all have numerous tributaries, which exhibit the same features on a smaller scale.

Speaking generally, the watersheds of these rivers do not attain any great height until followed for inland, and near the great lakes to be presently noticed. From what has been said above it follows that the extensive plains and valleys referred to are of alluvial formation, in many places of very rich and fertile quality, and capable of raising crops of every known product, subject, of course, to climatic limitations. Generally these plains and valleys rise from the river-levels in a very gradual slope, sometimes into a series of terraces from 10ft. to 50ft. in height, and sometimes into undulating hills, intersected at frequent intervals by lateral gullies, affording natural drainage and an abundant supply of water.

These hills are covered with an indigenous growth, consisting of tussock and other grasses, fern, flax, &c., and even in their native state afford excellent grazing for sheep.

Near the large lakes, such as Wakatipu, Te Anau, Manapouri, Hauroto, and others, and between these and the West Coast, the country becomes very high, often reaching 5,000ft. and 6,000ft. above sea-level, with very steep and rugged spurs and ravines, these in most cases being covered with a dense growth of timber, principally of the birch or beech tribe, for two-thirds of their height: the tops, however, often carry tussock and other herbage, affording admirable pasture for sheep in summer; but stock have to be removed from April to October, during which period this country is generally covered with snow.

Southland does not contain so much forest as most of the North Island districts, nevertheless there is a very considerable quantity in the eastern, southern, and western parts, and a large export trade is done in the different kinds of pine and other timbers used for building, engineering, furniture-making, &c.

From what has been said of the river systems it will be evident that the

country is well supplied with water, although none of the rivers can be used for purposes of internal communication; but the plains are traversed by railways for considerable distances from the principal towns, and where the railways end communication is continued by good roads, so that there is probably no part of the colony so well off for means of transit.

Agriculture.

Having already touched on the character of the soil, it only remains to say that the plains, terraces, and lower hills are well adapted for raising wheat, oats, and other cereals, turnips, mangolds, beets, and the various other crops common to temperate climates. Wheat is not so widely grown as it might be, for the reason, probably, that the pastoral branches of farming receive more attention than the agricultural, and wheat is not required for these; whereas oats are largely grown to feed sheep in the form of chaff; turnips also are much cultivated for winter food. Where wheat is grown the yields are very satisfactory, ranging from 40 to 60 bushels per acre, while oats frequently give 80 to 100 bushels.

Linseed is now receiving some attention from farmers, as they find ready sale for it to the manufacturing chemists at remunerative prices, a fair crop yielding over £5 per acre.

Dairy-farming, &c.

Dairy-farming is becoming a very important industry, and is rapidly expanding under the impetus it has received through improved appliances and the favourable state of the Home markets. There are a number of cheese- and butter-factories, and one for preserving milk on the Swiss system. One firm makes Stilton cheese, which is considered to be equal to cheese of the same kind made in England.

Sheep-farming.

By far the most important industries are those connected with the raising and export of mutton and wool. Some years ago sheep-farming was much hindered by the inroads of rabbits; but owing to the repressive measures adopted there has been a marked abatement of the pest, even on high back-country, and thus it has come to pass that country which a few years ago was absolutely denuded of vegetation now shows unmistakable signs of recovery. The hill-country, although it does not carry a large proportion of stock to area, is eminently healthy. The average carrying-capacity over the whole district would probably be under one sheep to the acre. Until within the last few years most of the runs were stocked with merinos, but owing to the decline in price of merino wool, and to the carcass being unacceptable to the European market, these sheep have, generally speaking, been replaced by Leicesters, Lincolns, Romney Marsh, Cheviot, and crossbreds of various kinds, better suited to the existing demands. Large establishments for slaughtering and freezing sheep are at work. The latest of these, erected near the Bluff Harbour, is considered to be the most complete in the colony, being provided with all possible labour-saving machinery and appliances for working up the by-products into articles of commerce.

Coal and Gold.

Extensive seams of coal and lignite are distributed over the district, and in many places the annual output is considerable. Peat is also found in some up-country neighbourhoods, and is used for fuel where wood and coal are scarce. Gold is found all over the district, and a large number of persons are engaged in obtaining it either by sluicing or dredging. A considerable amount of capital has been invested in beach-dredges worked by steam. Not long ago gold-bearing reefs, reported to be of great richness, were discovered at Wilson's River, near Preservation Inlet.

Fish.

Salt-water fish abound in great quantities in the waters surrounding Stewart Island, and oysters are found on banks between that island and the Bluff. All the large rivers, and many of the tributaries, are well stocked with trout, and one river—the Aparima—had salmon-spawn put into it some years ago.

Fruit.

The small English fruits, such as gooseberries, currants, raspberries, strawberries, &c., grow in great profusion, as do also apples. Stone-fruits are not so common, although peaches, nectarines, apricots, &c., do well when trained against nursery-walls in favourable aspects.

Climate.

The climate is bracing in winter, and warm and genial in spring and summer. The old residents state that there has been a marked decrease in the rainfall within the last decade. No regular observations have been recorded for the last few years, but it is believed that the average is about 30in. a year. It may, however, be observed that more rain falls near the coast than inland, and also that the rainfall is more evenly distributed throughout the year than is the case in the northern part of the colony. The temperature varies from 40° in winter to 70° in summer.

Towns.

Invercargill, the chief town, was from the first well laid out with wide streets, and liberal reserves in the town belts for recreation purposes. The Corporation exercises a paternal care in providing water, gas, and in disposing of sewage, &c., for the citizens; and the streets are well lighted, paved, and maintained. Artesian water is pumped to the top of a handsome brick tower—which, by the way, is a very conspicuous landmark—and stored there in a tank, from which most of the houses within the town boundaries are supplied. The population, including suburbs, is nearly 10,000. All religious denominations are represented. There are rope-and-twine, carriage- and implement-factories, flour- and saw-mills, fellmongeries, brick- and pottery-works, iron-foundries, and various other industries. Exceptionally good beer is brewed here, and there are three first-class hotels. The Government Buildings, lately enlarged, are on a scale not often seen in a town of the same size. A clock and chimes of New Zealand make have been placed in the central tower. Although the Bluff is the principal port, Invercargill is provided with a second harbour for smaller vessels, in the New River Estuary, where there is a jetty with appliances for handling and receiving goods within the town boundaries.

The Bluff Harbour, which is connected by rail with Invercargill, does a very large shipping business, and derives additional importance from being the first and last port of call for steamers trading with Victoria and Tasmania.

Next in size to Invercargill is the Town of Gore, situated on the Mataura River, and at the junction of the trunk railway with the Waimea Plains Branch. Owing to this fact, and to the goodness of the land in the neighbourhood, Gore is rapidly growing in size and importance.

Riverton is a pretty little town, about twenty-five miles from Invercargill, with which it is connected by rail, and is situated on the estuary of Aparima or Jacob's River. This is the oldest settlement in Southland, and was a great resort for whalers in former years. The harbour is available for coasting-vessels, but the principal carrying-trade is done by rail. There are several sawmills in the neighbourhood.

The Town of Winton is on the Invercargill-Kingston Railway, about twenty miles distant from the latter, and is the centre for a good farming, sawmilling, and coal-mining district.

Lumsden is the junction of the Kingston and Waimea Plains lines. Coaches starting from this place take passengers and mails to the Lake country.

East of Invercargill is Fortrose, on the estuary of Mataura River, which can be entered by coasting-steamers. This place is surrounded by an exceptionally fertile agricultural and pastoral country.

Eastward of Fortrose and about midway between that place and Catlin's River is Waikawa, a newly-settled township with a first-class harbour for coasters, and a very large area of Crown land around it available for settlement. Steamers trading with Dunedin and Invercargill call here and at Fortrose at regular intervals.

Crown Lands for Disposal.

There remains for disposal a very large area of Crown land, probably more than 500,000 acres, but this can be estimated only roughly, because much of the district west of Waiau River is practically unexplored. It is true that this is chiefly forest-land, but it is beginning to be recognised here, as in the North Island, that when such land is once cleared and laid down with grass it is distinctly superior to most open country for grazing purposes; and grazing is and will long remain the principal industry of the colony. The land referred to lies around Waikawa Harbour, along the Waikawa-Catlin's Road, between the Jacob's and Waiau Rivers, and to the west of the Waiau. Stewart Island also contains a wide extent of Crown lands, mostly forest-clad. There are also considerable areas of open hilly country, carrying natural grasses, still in the hands of Government. These are to be found in various parts of the district, but are being rapidly taken up!

APPENDIX.

PRINCIPAL EVENTS.

DATES OF SOME OF THE PRINCIPAL EVENTS IN THE HISTORY OF NEW ZEALAND.

Dec. 13, 1642.—Discovery of New Zealand by Abel Jansen Tasman.

Oct. 8, 1769.—Captain Cook landed at Poverty Bay on his first visit.

1814.—First arrival of the Rev. Mr. Marsden at Bay of Islands, and introduction of Christianity. Horses, oxen, sheep, and poultry first brought to the colony.

1823, 1828.—Acts passed by the Imperial Parliament extending the jurisdiction of the Courts of justice in New South Wales to all the British subjects in New Zealand.

1825.—First attempt at colonisation by an expedition under the command of Captain Herd, who bought two islands in the Hauraki Gulf.

1827.—Destruction of mission-station at Whangaroa by Hongi's forces.

1831.—Application of thirteen chiefs for the protection of King William the Fourth.

1833.—Mr. Busby appointed British Resident, to live at the Bay of Islands.

1835.—Declaration of independence of the whole of New Zealand as one nation, with the title of "The United Tribes of New Zealand."

1838.—The Roman Catholic Bishop Pompallier, with several priests, arrived at Hokianga.

May 12, 1839.—Departure of the preliminary expedition of the New Zealand Company from England.

June, 1839.—Issue of Letters Patent authorising the Governor of New South Wales to include within the limits of that colony any territory that might be acquired in sovereignty by Her Majesty in New Zealand.

Sept. 16, 1839.—First body of New Zealand Company's emigrants sailed from Gravesend.

Sept. 20, 1839.—Arrival in Port Nicholson of the preliminary expedition of the New Zealand Company under Colonel Wakefield.

Jan. 20, 1840.—First steamer arrived in New Zealand.

Jan. 22, 1840.—Arrival of first body of immigrants at Port Nicholson.

Jan. 29, 1840.—Captain Hobson, R.N., arrived at the Bay of Islands. On the following day (Jan. 30) he hoisted the Union flag, and read the commission, under the Great Seal of the United Kingdom, which extended the boundaries of the Colony of New South Wales so as to embrace and comprehend the Islands of New Zealand; also his own commission as Lieutenant-Governor over territory that might be acquired in sovereignty.

Feb. 5, 1840.—Treaty of Waitangi signed.

May 21, 1840.—Date of Proclamations of sovereignty over the Islands of New Zealand.

June 17, 1840.—The Queen's sovereignty over the Middle Island formally proclaimed at Cloudy Bay, by Major Bunbury, H.M. 80th Regiment, and Captain Nias, R.N.

Aug. 11, 1840.—The British flag hoisted at Akaroa by Captain Stanley, R.N., and British authority established. The French frigate "L'Aube" arrived there on the 13th August, and the vessel "Comte de Paris," with fifty-seven immigrants, on the 16th August, in order to establish a French colony.

Sept. 18, 1840.—The British flag hoisted at Auckland. The Lieutenant-Governor's residence established there.

1840.—Formation of Wanganui settlement under the name of "Petra."

Feb. 12, 1841.—Issue of charter of incorporation to the New Zealand Company.

Mar. 31, 1841.—Arrival of first New Plymouth settlers.

May 3, 1841.—New Zealand proclaimed to be independent of New South Wales.

Oct., 1841.—Selection of site for settlement at Nelson.

Feb. 1, 1842.—Settlement founded at Nelson.

May 29, 1842.—Arrival of Bishop Selwyn in the colony.

Sept. 10, 1842.—Death of Governor Hobson. Lieutenant Shortland, R.N., Colonial Secretary, became Acting-Governor until the arrival of Captain Fitzroy.

June, 1843.—Affray with Natives at the Wairau, and massacre by Rangihaeata of Captain Wakefield, R.N., agent at Nelson of the New Zealand Company, and others, who had surrendered.

Dec. 1, 1843.—Arrival of Captain Fitzroy, R.N., as Governor.

July 8, 1844.—The Royal flagstaff at Kororareka cut down by Heke.

March 10, 1845.—Attack on and destruction of Town of Kororareka by Heke.

Oct. 1, 1845.—Receipt of despatch notifying recall of Governor Fitzroy.

Nov. 14, 1845.—Arrival of Captain Grey, as Lieutenant-Governor of the colony, from South Australia.

Jan. 11, 1846.—Capture of pa at Ruapekapeka, Bay of Islands, and termination of Heke's war.

Mar. 3, 1846.—Commencement of Native hostilities in the Hutt Valley, near Wellington.

May 16, 1846.—Attack by Natives on a military outpost in the Hutt Valley.

July 23, 1846.—Capture of Te Rauparaha at Porirua, near Wellington. He was detained for a year as a prisoner on board a ship of war.

Aug. 28, 1846.—The New Zealand Government Act passed by the Imperial Parliament, under which a charter was issued dividing the colony into two provinces, and granting representative institutions.

May 19, 1847.—Attack by Natives on settlement of Wanganui.

Jan. 1, 1848.—Captain Grey sworn in as Governor-in-Chief over the Islands of New Zealand, also as Governor of the Province of New Ulster and Governor of the Province of New Munster.

Jan. 3, 1848.—Major-General Pitt appointed by Governor Grey to be Lieutenant-Governor of the Province of New Ulster.

Jan. 28, 1848.—Assumption by Lieutenant-Governor E. J. Eyre, at Wellington, of the administration of the Government of the Province of New Munster.

Feb. 21, 1848.—Peace ratified at Wanganui.

Mar. 7, 1848.—Suspension by Imperial statute of that part of the New Zealand Government Act which had conferred representative institutions.

Mar., 1848.—Otago founded by a Scotch company under the auspices of the Free Church of Scotland.

Oct., 1848.—Severe earthquake at Wellington.

July, 1850.—Surrender of the New Zealand Company's charter, all its interests in the colony reverting to the Imperial Government.

Dec., 1850.—Canterbury founded by the Canterbury Association in connection with the Church of England.

Jan. 8, 1851.—Death of Major-General Pitt, Lieutenant-Governor of the Province of New Ulster.

April 14, 1851.—Lieutenant-Colonel Wynyard appointed Lieutenant-Governor of the Province of New Ulster.

1852.—Discovery of gold at Coromandel by Mr. Charles Ring.

June 30, 1852.—The Constitution Act passed by the Imperial Parliament, granting representative institutions to the colony, and subdividing it into six provinces.

Jan., 1853.—Promulgation of the Constitution Act.

- Mar. 7, 1853.—Assumption by Sir George Grey, K.C.B., of the duties of Governor of the colony, in terms of the appointment after the passing of the New Zealand Constitution Act, and cessation of the duties of the Lieutenant-Governors of New Ulster and New Munster.
- Dec. 31, 1853.—Departure of Governor Sir George Grey.
- Jan. 3, 1854.—Lieutenant-Colonel Wynyard assumed the administration of the Government.
- May 27, 1854.—Opening at Auckland of the first session of the General Assembly by Lieutenant-Colonel Wynyard, Administrator of the Government.
- Jan., 1855.—Very severe earthquake on each side of Cook Strait.
- Sept. 6, 1855.—Arrival of Governor Colonel T. Gore Browne, C.B.
- Nov. 12, 1855.—First members elected to House of Representatives under system of Responsible Government.
- Aug. 8, 1855.—General Assembly opened.
- Sept. 15, 1855.—General Assembly prorogued.
- May 7, 1856.—Appointment of the first Ministry under the system of Responsible Government, under Mr. Sewell, Colonial Secretary.
- May 14, 1856.—Defeat of Mr. Sewell's Ministry.
- May 20, 1856.—Appointment of a Ministry under presidency of Mr. W. Fox, as Attorney-General.
- May 28, 1856.—Defeat of Mr. Fox's Ministry, by a majority of one, on a direct vote of want of confidence.
- June 2, 1856.—Appointment of a Ministry under the presidency of Mr. E. W. Stafford.
- 1857.—First payable goldfield in the colony opened at Collingwood, in the Nelson Province.
- Nov. 1, 1858.—Establishment of the Province of Hawke's Bay.
- March, 1859.—Te Teira offered land at Waitara for sale to the Government.
- Nov. 1, 1859.—Establishment of the Province of Marlborough.
- Mar., 1860.—Commencement of hostilities against Wiremu Kingi te Rangitake at Waitara.
- Mar. 18, 1860.—Capture of Maori pa at Waitara.
- Mar. 28, 1860.—Engagement at Waireka.
- June 27, 1860.—Engagement of Puketakauere at Waitara.
- Nov. 6, 1860.—Defeat at Mahoeitahi, with heavy loss, of a force of Waikato Natives, who had crossed the Waitara River to join Wiremu Kingi.
- Dec. 31, 1860.—Capture of the Matarikoriko Pa, and defeat of a large body of Waikato Natives.
- Jan. 23, 1861.—The Natives made a determined attack on the redoubt at Huirangi occupied by Imperial troops, and were repulsed with heavy loss.
- April 1, 1861.—Establishment of Province of Southland.
- May 21, 1861.—A truce agreed to.
- May, 1861.—Discovery of gold at Gabriel's Gully, Otago.
- July 5, 1861.—Defeat of Mr. Stafford's Ministry, by a majority of one, on a vote of want of confidence.
- July 12, 1861.—Appointment of a Ministry under the premiership of Mr. Fox.
- July 29, 1861.—Incorporation of the Bank of New Zealand.
- Sept. 26, 1861.—Arrival of Sir George Grey, K.C.B., at Auckland, from the Cape Colony, to succeed Governor Gore Browne. Sir George Grey was sworn in as Governor on the 3rd October.
- Oct. 2, 1861.—Departure of Governor Gore Browne.
- June 28, 1862.—Coromandel proclaimed a goldfield.
- July 28, 1862.—Defeat of Mr. Fox's Ministry by the casting-vote of the Speaker, on a proposed resolution in favour of placing the ordinary conduct of Native affairs under the administration of the Responsible Ministers.
- Aug. 6, 1862.—Appointment of a Ministry under the leadership of Mr. Alfred Domett.
- Feb. 7, 1863.—Wreck of H.M.S. "Orpheus" on Manukau Bar; 181 lives lost.

Feb. 26, 1863.—Definite relinquishment by the Imperial Government of control over administration of Native affairs.

May 4, 1863.—Treachorous assault near Tataraimaka by Natives on a military escort. Murder of Lieutenant Tragett, Dr. Hope, and five soldiers of the 57th Regiment.

June 4, 1863.—Defeat of Natives at Katikara, by a force under Lieut.-General Cameron.

July 17, 1863.—Action at Koheroa, in the Auckland Province. Commencement of the Waikato War.

Oct. 27, 1863.—Resignation of the Domett Ministry, in consequence of difficulties experienced in connection with arrangements for finding a fitting representative of the Government in the Legislative Council.

Oct. 30, 1863.—Appointment of the Ministry formed by Mr. Fox, under the premiership of Mr. F. Whitaker.

Nov., 1863.—Acceptance by the General Assembly of colonial responsibility in Native affairs.

Nov. 20, 1863.—Battle of Rangiriri. Defeat of Natives and unconditional surrender of 183.

Dec. 1, 1863.—The first railway in New Zealand opened for traffic by W. S. Moorhouse, Superintendent of Canterbury. The line was from Christchurch to Ferrymead Junction.

Dec. 3, 1863.—The New Zealand Settlements Act passed, giving the Governor power to confiscate the lands of insurgent Natives.

Dec. 8, 1863.—Occupation of Ngaruawahia. The British flag hoisted on the Maori king's flagstaff.

Feb. 11, 1864.—Engagement with Natives on Mangapiko River. Major (then Captain) Heaphy, of the New Zealand Forces, won the Victoria Cross for distinguished bravery on this occasion.

Feb. 22, 1864.—Defeat of Natives at Rangiaohia.

April 2, 1864.—Attack on and capture of pa at Orakau, Waikato.

April 21, 1864.—Engagement near Maketu, Bay of Plenty. Tribes of the Rawhiti defeated by Arawa Natives, under Captain McDonnell.

April 29, 1864.—Assault on Gate Pa, Tauranga, Bay of Plenty, and repulse of large British force by the Maoris. The pa was abandoned by the Natives during the following night.

April 30, 1864.—Repulse of attack by rebel Hauhau Natives on redoubt at Sentry Hill, Tararaki.

May 14, 1864.—Battle of Moutoa, an island in the Wanganui River, between friendly and rebel Hauhau Natives. Complete defeat of rebels.

June 21, 1864.—Engagement at Te Ranga, near Tauranga, by Lieut.-Colonel Greer, 68th Regiment. Severe defeat of the Natives.

1864.—Discovery of gold on the west coast of the Middle Island.

Sept. 10, 1864.—Escape of Maori prisoners from Kawau.

Oct. 3, 1864.—Wellington chosen as the seat of Government.

Nov. 24, 1864.—Appointment of a Ministry under the premiership of Mr. F. A. Weld, the Whitaker-Fox Ministry having resigned during the recess.

Dec. 17, 1864.—Confiscation of Native lands in Waikato by Sir George Grey.

Feb., 1865.—Removal of the seat of Government to Wellington.

March 2, 1865.—Barbarous murder of the Rev. Mr. Volkner, a Church of England missionary, at Opotiki, by Hauhau fanatics, under Kereopa.

June 8, 1865.—Submission of the Maori Chief Wiremu Tamihana to Wāhoroa (William Thompson).

June 17, 1865.—Murder of Mr. Fulloon, a Government officer, and his companions, at Whakatane, by Hauhau fanatics.

July 22, 1865.—Capture of the Wereroa Pa, near Wanganui.

Aug. 2, 1865.—Assault and capture of the Pa Kairomitomi, at Waiapu, by Colonial Forces under Captain Fraser, and Native Contingent under the chief Te Mokena. Eighty-seven rebels killed.

Sept. 2, 1865.—Proclamation of peace issued by Governor Sir George Grey, announcing that the war, which commenced at Oakura, was at an end.

Sept. 30, 1865.—Murder by Hauhaus, at Kakaraméa, of Mr. Broughton, when sent as friendly messenger to them by Brigadier-General Waddy.

Oct. 12, 1865.—Resignation of Mr. Weld's Ministry, on account of a resolution adverse to the Government policy, having been defeated only by the casting-vote of the Speaker.

Oct. 16, 1865.—Appointment of a Ministry under the premiership of Mr. E. W. Stafford.

Dec. 25, 1865.—Defeat of rebel Natives at Wairoa, Hawke's Bay, by Colonial Forces and Native Contingent.

Jan. 4, 1866.—Defeat of Natives at Okotuku Pa, on the west coast of the North Island, by force under Major-General Chute.

Jan. 7, 1866.—Assault on and capture of Putahi Pa, by force under Major-General Chute.

Jan. 13, 1866.—Assault on and capture of Otapawa Pa, by force under Major-General Chute.

Jan. 17, 1866, to Jan. 25, 1866.—Period of Major-General Chute's march through the bush to New Plymouth.

Jan., 1866.—Escape of a large number of Native prisoners from the hulk at Wellington; many were drowned in trying to swim ashore.

March 29, 1866.—Submission of the rebel chiefs Te Heuheu and Herekikie, of Taupo district.

Mar., 1866.—A detachment of Maori prisoners sent to the Chatham Islands.

June 15, 1866.—Commencement of Panama steam mail-service.

Aug. 26, 1866.—The Cook Strait submarine telegraph cable laid.

Oct. 2, 1866.—Engagement with rebel Natives at Pungarehu, West Coast, by Colonial Forces, under Major McDonnell.

Oct. 8, 1866.—First Act passed to impose stamp duties.

Oct. 12, 1866.—Defeats of rebel Natives at Omaranui and at Petane, Hawke's Bay, by Colonial Forces.

Oct. 10, 1867.—An Act passed to establish an institute for the promotion of science and art in the colony.

Oct. 10, 1867.—An Act passed for the division of the colony into four Maori electorates, and the admission of four Maori members to the House of Representatives.

Jan., 1868.—Establishment of the County of Westland.

Feb. 5, 1868.—Arrival of Governor Sir George F. Bowen, G.C.M.G.

July 4, 1868.—Seizure by Maori prisoners, under the leadership of Te Kooti, of the schooner "Rifleman," and their escape from the Chatham Islands.

July 12, 1868.—Night attack by Natives on redoubt at Turuturu Mokai. Sub-Inspector Ross and seven Europeans killed. Natives driven off by the arrival of a force under Major Von Tempsky.

Aug. 8, 1868.—Pursuit by Lieut.-Colonel Whitmore of escaped Chatham Island prisoners, and indecisive engagement in the gorge of the Ruake Ture.

Aug. 21, 1868.—Attack on Ngutu-o-te-Manu by force under Lieut.-Colonel McDonnell. Defeat of Natives; four Europeans killed and eight wounded.

Sept. 7, 1868.—Engagement in bush at Ngutu-o-te-Manu. Major Von Tempsky, Captains Buck and Palmer, Lieutenants Hunter and Hastings, and fourteen men killed.

Oct. 19, 1868.—Bishop Selwyn left New Zealand.

Nov. 7, 1868.—Attack on Moturoa. Repulse of Colonial Forces, with severe loss.

Nov. 10, 1868.—Massacre of thirty-two Europeans at Poverty Bay by Te Kooti's band of Natives, who had escaped from the Chatham Islands.

Nov. 24, 1868, Dec. 3, 1868, Dec. 5, 1868.—Engagements between friendly Natives and rebels under Te Kooti, at Patutahi, Poverty Bay district.

Jan. 5, 1869.—Assault on and capture of Ngatapa Pa, Poverty Bay district, after a siege of six days, by the Colonial Forces of Europeans and friendly Natives. Dispersion and pursuit of Te Kooti's band. More than 136 rebel Natives were killed.

Feb. 13, 1869.—Treacherous murder of the Rev. John Whitely and seven other Europeans at the White Cliffs, Taranaki.

Feb. 18, 1869.—Attack by rebel Natives on a foraging-party at Karaka Flat; one sergeant and six men killed.

Mar. 3, 1869.—Termination of Panama mail-service.

Mar. 13, 1869.—Attack on and defeat of Titokowaru's force at Otauto.

April 10, 1869.—Native pa at Mohaka taken by Te Kooti, who killed forty friendly Natives and several Europeans in the neighbourhood.

April 12, 1869.—First arrival of H.R.H. the Duke of Edinburgh in Wellington, in H.M.S. "Galatea."

May 6, 1869.—Surprise and capture of Ahikereru and Oamaru Teangi Pas, Waiwera country. Defeat of Te Kooti.

June 13, 1869.—Surrender to Major Noake and Mr. Booth, R.M., of the chief Tairua, with 122 men, women, and children of the Pakakohe Tribe, near Wanganui.

June 24, 1869.—Defeat of Mr. Stafford's Ministry on a want-of-confidence motion.

June 28, 1869.—Appointment of a Ministry under the premiership of Mr. W. Fox.

Sept. 3, 1869.—An Act passed providing Government life insurance and annuities.

Oct., 1869.—Seventy-four prisoners from the bands of Te Kooti and Titokowaru sentenced to death, after trial, for treason. The sentences of seventy-three were commuted to penal servitude for various terms.

Oct. 4, 1869.—Pouerere Pa stormed and taken by Lieut.-Colonel McDonnell, with a mixed force of Europeans and Natives.

Jan., 1870.—Three hundred friendly Natives under Topia, and three hundred under Major Kepa (known as Kemp), started up the Wanganui River in pursuit of Te Kooti, who retreated into the Urewera country.

Jan. 25, 1870.—Capture of Tapapa Pa, occupied by Te Kooti.

Feb. 24, 1870.—The last detachment of the Imperial troops left the colony.

Mar. 25, 1870.—Major Kepa, with Native force, captured the position held by Te Kooti at Maraetahi, in Urewera country; nineteen rebels killed and seventy-three of Te Kooti's men taken prisoners. Te Kooti escaped with twenty followers.

Mar. 26, 1870.—Commencement of San Francisco mail-service.

June 28, 1870.—Enunciation in the House of Representatives of the public-works policy by the Colonial Treasurer, Mr. Vogel.

July, 1870.—Thirty prisoners of Te Kooti's band sentenced to death. The sentences were commuted to penal servitude.

Aug. 27, 1870.—Arrival in Wellington of H.R.H. the Duke of Edinburgh in H.M.S. "Galatea." Second visit.

Sept. 12, 1870.—An Act passed to establish the New Zealand University.

Sept. 12, 1870.—The Land Transfer Act passed, to simplify the title to land and dealings with real estates.

Oct. 6, 1870.—Southland Province reunited with Otago.

Dec. 5, 1870.—Honiani te Puni, the chief of the Ngatiawas, a staunch friend of the Europeans, died at Pitone, near Wellington, aged ninety years.

Mar., 1871.—Commencement of railway-construction under the public-works policy.

Aug. 4, 1871.—Death of Tamati Waka Nene, the great Ngapuhi chief and friend of the Europeans.

Nov., 1871.—Capture of the notorious rebel Kereopa, the murderer of the Rev. Mr. Volkner, by the Ngatiporou.

Jan. 5, 1872.—Execution of Kereopa at Napier.

Jan., 1872.—Remission of sentences on fifty-eight Native prisoners then undergoing imprisonment for rebellion.

Feb. 22, 1872.—Visit of William King, the Maori chief of Waitara, to New Plymouth, and resumption of amicable relations with the Europeans.

May 9, 1872.—A general thanksgiving-day for the recovery of H.R.H. the Prince of Wales.

Sept. 6, 1872.—Defeat and resignation of Mr. Fox's Ministry.

Sept. 10, 1872.—Appointment of a Ministry under the premiership of the Hon. E. W. Stafford.

Oct. 4, 1872.—Defeat of the Stafford Ministry on a vote of want of confidence moved by Mr. Vogel.

Oct. 11, 1872.—Appointment of a Ministry under the premiership of the Hon. G. M. Waterhouse, M.L.C.

Oct. 11, 1872.—First appointment of Maori chiefs (two) to be members of the Legislative Council.

Oct. 25, 1872.—The Public Trust Office Act passed.

Jan., 1873.—Establishment of the New Zealand Shipping Company.

Mar. 3, 1873.—The Hon. W. Fox appointed Premier on the resignation of that office by the Hon. G. M. Waterhouse, the other members of the Ministry being confirmed in their offices.

Mar. 19, 1873.—Departure of Governor Sir G. F. Bowen, G.C.M.G.

Mar. 21, 1873.—Assumption of the Government by Sir G. A. Arney, Chief Justice, as Administrator.

April 8, 1873.—Resignation of the premiership by the Hon. W. Fox, on the return of the Hon. J. Vogel, C.M.G., from Australia. Appointment of Mr. Vogel as Premier, the other Ministers being confirmed in their offices.

June 14, 1873.—Arrival of Governor Sir J. Fergusson, P.C.

Aug. 22, 1874.—The Imprisonment for Debt Abolition Act passed.

Nov. 27, 1874.—Sir James Fergusson left New Zealand.

Dec. 3, 1874.—Arrival of Governor the Marquis of Normanby, P.C.

1874.—31,774 immigrants were introduced this year under the immigration and public-works policy.

Jan. 3, 1875.—Visit of Sir Donald McLean to the Maori king; resumption of amicable relations.

July 6, 1875.—Resignation of the Ministry, in consequence of the absence of Sir J. Vogel, K.C.M.G., in England, and his being unable to attend the session of Parliament. Reconstitution thereof, under the premiership of the Hon. Dr. Pollen, M.L.C.

July, 1875.—Establishment of the Union Steam Shipping Company of New Zealand.

1875.—16,324 immigrants were introduced this year under the immigration and public-works policy.

Oct. 12, 1875.—The Abolition of Provinces Act passed.

Feb. 15, 1876.—Resignation of the Hon. Dr. Pollen's Ministry, and reconstitution under the premiership of Sir J. Vogel, K.C.M.G.

Feb. 18, 1876.—Completion of the work of laying the telegraph cable between New Zealand and New South Wales.

June, 1876.—Death of Dr. Isaac Earl Featherston, while acting as Agent-General for the colony in England. He was the first to hold that office, and had previously been Superintendent of the Province of Wellington from the time of the first establishment of provincial representative institutions.

Sept. 1, 1876.—Resignation of Sir J. Vogel's Ministry in view of the appointment of Sir J. Vogel as Agent-General. Formation of a Ministry under the premiership of Major Atkinson.

Sept. 13, 1876.—Resignation of Major Atkinson's Ministry in consequence of doubts being entertained as to the constitutional position thereof. Reconstitution of the Ministry under the premiership of Major Atkinson.

Nov. 1, 1876.—"The Abolition of Provinces Act, 1875," came into full operation. Complete abolition of provincial institutions. The colony subdivided into counties and municipal boroughs.

Oct. 8, 1877.—Defeat of the Atkinson Ministry on a vote of want of confidence moved by Mr. Larnach.

Oct. 15, 1877.—Appointment of a Ministry under the premiership of Sir George Grey, K.C.B.

Nov. 29, 1877.—The Education Act, providing for the free and compulsory education of children, passed.

April 11, 1878.—Bishop Selwyn died, in England.

- Feb. 29, 1879.—Departure of Governor the Marquis of Normanby, P.O.
 Mar., 1879.—Removal of surveyors from the Waimate Plains by Natives acting under Te Whiti's orders.
 Mar. 27, 1879.—Arrival of Governor Sir Hercules G. R. Robinson, G.C.M.G.
 May 25, 1879.—The Natives from Parihaka, by order of Te Whiti, began ploughing up lands occupied by Europeans.
 June, 1879.—Arrest of 180 of these Natives for causing disturbances.
 July 29, 1879.—Defeat of the Grey Ministry on an amendment to the Address in Reply, moved by Sir William Fox, followed by a dissolution of Parliament.
 Oct. 3, 1879.—Defeat and subsequent resignation of Sir George Grey's Ministry.
 Oct. 8, 1879.—Appointment of a Ministry under the premiership of the Hon. John Hall.
 Dec. 19, 1879.—An Act passed to assess property for the purpose of taxation.
 Dec. 19, 1879.—The Triennial Parliament Act passed.
 Dec. 19, 1879.—An Act passed to qualify every resident male of twenty-one years of age and upwards to vote.
 June, 1880.—First portion of the Maori prisoners released by the Government.
 Sept. 8, 1880.—Departure of Governor Sir Hercules G. R. Robinson, G.C.M.G.
 Oct. 1880.—Release of the last portion of the Maori prisoners.
 Oct. 26, 1880.—Sir Francis Dillon Bell appointed Agent-General.
 Nov. 29, 1880.—Arrival of Governor Sir A. H. Gordon, G.C.M.G.
 April 29, 1881.—"Tararua," steamer, wrecked; 130 lives lost.
 June 26, 1881.—Severe earthquakes in Wellington.
 Nov. 5, 1881.—March of force of Constabulary and Volunteers on Parihaka, and arrest of Te Whiti and Tohu, without bloodshed.
 Feb. 15, 1882.—First shipment of frozen meat made from Port Chalmers. (See Year-book, 1893, p. 192.)
 April 21, 1882.—Resignation (during the recess) of the Hon. J. Hall's Ministry, and its reconstruction under the premiership of the Hon. F. Whitaker, M.L.C.
 June 23, 1882.—Departure of Governor Sir A. H. Gordon.
 June 24, 1882.—Assumption of the Government by Sir J. Prendergast, Chief Justice.
 Jan. 20, 1883.—Arrival of Governor Sir W. F. D. Jervois, G.C.M.G., O.B.
 Jan. 26, 1883.—A direct line of steam-communication between England and New Zealand inaugurated by the New Zealand Shipping Company.
 Feb. 13, 1883.—Proclamation of amnesty to Maori political offenders.
 Feb. 19, 1883.—Liberation of Te Whiti and Tohu.
 Sept. 25, 1883.—Resignation of the office of Premier and his seat in the Ministry by the Hon. F. Whitaker, and the appointment of the Hon. Major H. A. Atkinson to be Premier, the members of Mr. Whitaker's Ministry being confirmed in their offices.
 June 11, 1884.—Defeat of Major Atkinson's Government.
 June 27, 1884.—Dissolution of the General Assembly.
 Aug. 16, 1884.—Resignation of Major Atkinson's Ministry in consequence of the result of the general election. Formation of a Ministry under the premiership of Mr. Robert Stout.
 Aug. 20, 1884.—Defeat of Mr. Stout's Ministry by an amendment, expressive of want of confidence, to the Address in Reply being carried.
 Aug. 28, 1884.—Appointment of a Ministry under the premiership of Major Atkinson.
 Aug. 29, 1884.—Defeat of Major Atkinson's Ministry on a vote of want of confidence.
 Sept. 3, 1884.—Appointment of a Ministry under the premiership of Mr. Robert Stout.
 Nov. 8, 1884.—An Act passed to enable certain loans of the New Zealand Government to be converted into inscribed stock and the accrued sinking funds released.

- Aug. 1, 1885.—The New Zealand Industrial Exhibition opened at Wellington.
- June 10, 1886.—Volcanic eruptions at Tarawera, and destruction of the famed Pink and White Terraces; 101 lives lost.
- May 28, 1887.—Defeat of Sir Robert Stout's Ministry.
- July 15, 1887.—Dissolution of the General Assembly, after prorogation, on the 10th June.
- July 21, 1887.—A Proclamation issued declaring the Kermadec Islands to be annexed to and form part of the Colony of New Zealand.
- Oct. 8, 1887.—Appointment of a Ministry under the premiership of Major H. A. Atkinson, Sir Robert Stout's Ministry having resigned in consequence of the result of the election.
- Dec. 19, 1887.—An Act passed to reduce the number of members of the House of Representatives, after the expiration of the General Assembly then sitting, to seventy-four, including four Maori representatives.
- Dec. 23, 1887.—The Australian Naval Defence Act, being an Act to provide for the establishment of an additional naval force on the Australian station, at the joint charge of the Imperial and the several Colonial Governments, was passed by the New Zealand Legislature.
- Oct. 27, 1888.—Formal Proclamation of British Protectorate of Cook group of islands, by Captain Bourke, R.N., of H.M.S. "Hyacinth."
- Mar. 22, 1889.—Departure of Governor Sir W. F. D. Jervois, G.C.M.G., C.B., from the colony.
- Mar. 23, 1889.—Assumption of the Government by Sir James Prendergast.
- May 2, 1889.—Arrival of the Earl of Onslow, G.O.M.G.
- Sept. 2, 1889.—Electors prohibited by statute from voting in respect of more than one electorate at any election for the House of Representatives.
- Nov. 26, 1889.—Opening of South Seas Exhibition, Dunedin.
- Dec. 5, 1890.—First election of members of the House of Representatives under a practical manhood suffrage, and on the one-man-one-vote principle.
- Jan. 24, 1891.—Notification by Governor of acceptance of resignation (during the recess) of the Hon. Sir H. A. Atkinson's Ministry. Appointment of a Ministry under the premiership of the Hon. John Ballance.
- April 22, 1891.—Proclamation by Governor of New Zealand to inhabitants at Rarotonga of appointment of British Resident for the Protectorate of the Cook Islands.
- May 25, 1891.—Adhesion of Australia to Postal Union.
- Aug. 19, 1891.—Labour-laws: Passing of Employers' Liability Act 1883 Amendment Act.
- Aug. 29, 1891.—Labour-laws: Passing of Truck Act, to prohibit payment of wages in goods or otherwise than in money.
- Sept. 8, 1891.—Passing of Land and Income Assessment Act for purposes of taxation, and repeal of property-tax.
- Sept. 21, 1891.—Labour-laws: Passing of an Act for supervising and regulating of factories and workrooms. [Repealed by Act of 1894.]
- Jan. 19, 1892.—Electoral districts of the colony based on population as ascertained by the results of the census of 1891 proclaimed.
- Feb. 2, 1892.—Departure of Governor the Earl of Onslow.
- Feb. 25, 1892.—Assumption of the Government by Sir James Prendergast, Chief Justice.
- June 7, 1892.—Arrival of Governor the Earl of Glasgow, G.C.M.G.
- June 28, 1892.—Death of Sir H. A. Atkinson, K.C.M.G., Speaker of the Legislative Council, and previously four times Premier.
- Oct. 1, 1892.—Labour-laws: Passing of Contractors' and Workmen's Lien Act.
- October 8, 1892.—Passing of Dairy Industry Act. [Repealed by Act of 1894.]
- Oct. 11, 1892.—Passing of first Land-tax and Income-tax Act on the basis of the Assessment Act of previous year.
- Oct. 11, 1892.—"Land Act, 1892": Lease in Perpetuity without revaluation

system introduced: occupation with right of purchase: optional method of selection: small farms associations.

Oct. 8, 1892.—"Land for Settlements Act, 1892," authorising purchase of lands from individuals for purposes of subdivision. [Repealed by Act of 1894. See *post*.]

April 19, 1893.—Cheviot Estate taken over by Government under the Land and Income Assessment Act.

April 27, 1893.—Death of Hon. John Ballance, Premier of New Zealand.

May 1, 1893.—Resignation of the Ministry in consequence of the death of the Hon. John Ballance, and appointment of a new Ministry under the premiership of the Hon. R. J. Seddon.

June 23, 1893.—Death of Sir William Fox, K.C.M.G.; four times Premier of New Zealand.

Sept. 2, 1893.—Passing of Bank-note Issue Act, to make bank-notes a first charge on assets and to enable the Government to declare them to be a legal tender, &c.

Sept. 8, 1893.—The Legislative Council of New Zealand passed, by a majority of two, the Bill conferring the franchise on women.

Sept. 14, 1893.—Banks and Bankers Act Amendment Act passed, to permit of increase of capital by issue of new shares.

Sept. 19, 1893.—"The Electoral Act, 1893," extending franchise to women.

Oct. 2, 1893.—Alcoholic Liquors Sale Control Act passed: New licenses to be granted subject to the votes of the electors: reduction or abolition of licenses if desired.

Oct. 6, 1893.—Passing of "Criminal Code Act, 1893."

Oct. 6, 1893.—Labour-laws: Passing of "Workmen's Wages Act, 1893."

Oct. 6, 1893.—Native Land Purchase and Acquisition Act.

Oct. 20, 1893.—Sir James Prendergast appointed temporarily Deputy of the Governor.

Nov. 28, 1893.—A general election took place, being the first occasion on which women exercised the franchise.

Dec. 28, 1893.—Death of Right Rev. Dr. Henry John Chitty Harper, formerly Bishop of Christchurch and Primate of New Zealand.

Mar. 19, 1894.—Sir James Prendergast appointed temporarily Deputy of the Governor.

June 30, 1894.—Passing of Act to extend operation of Bank-note Issue Act, and another Act to control the transfer of bank shares.

June 30, 1894.—"Bank of New Zealand Share Guarantee Act, 1894," to guarantee special issue of shares to amount of £2,000,000, and purchase of Assets Estates Company by Assets Board. [Amended on July 20.]

July 20, 1894.—Passing of an Act to limit number of bank directors and power of shareholders to transfer their shares.

Aug. 21, 1894.—Labour-laws: Passing of Conspiracy Law Amendment.

Aug. 31, 1894.—Labour-laws: Passing of an Act to encourage the formation of industrial unions and associations, and to facilitate the settlement of industrial disputes by conciliation and arbitration.

Oct. 18, 1894.—"New Zealand Consols Act, 1894."

Oct. 18, 1894.—"Government Advances to Settlers Act, 1894," for relief of settlers burdened by high charges of interest, &c.

Oct. 18, 1894.—Passing of "Land for Settlements Act, 1894," authorising acquisition of private lands for purposes of settlement, with compulsory powers, and repealing Act of 1892; also "Lands Improvement and Native Lands Acquisition Act, 1894."

Oct. 18, 1894.—Labour-laws: Passing of "Shops and Shop-assistants Act, 1894," for limiting hours of business in shops.

Oct. 23, 1894.—Passing of "Banking Act, 1894."

Oct. 23, 1894.—Dairy Industry Act, to regulate manufacture of butter and cheese, with inspection and grading for export, and provide for purity of milk.

Oct. 28, 1894.—Wreck of s.s. "Wairarapa" at Great Barrier Island; 135 lives lost.

Mar. 29, 1895.—Death of Right Reverend Andrew Burn Suter, D.D., formerly Bishop of Nelson, and Primate of New Zealand.

May 27, 1895.—Government assumed management of the Midland Railway.

Aug. 3, 1895.—Death of C. W. Richmond, Puisne Judge of Wellington.

Aug. 20, 1895.—Trustees cemeteries authorised to provide for cremation of dead.

Sept. 4, 1895.—“Bank of New Zealand and Banking Act, 1895,” providing for writing off paid-up capital with proceeds of first call on reserve liability. Also for new capital and Assets Realisation Board, &c. Also to purchase business of any other bank.

Sept. 20, 1895.—Labour-laws: Passing of an Act to regulate attachment of wages.

Sept. 20, 1895.—Labour-laws: Passing of Servants' Registry Office Act.

Sept. 20, 1895.—“Family Homes Protection Act, 1895,” to secure homes for the people and to prevent them from mortgage or sale for debt.

Oct. 18, 1895.—Amended tariff passed.

Oct. 31, 1895.—Bank of New Zealand and Banking Act Amendment Act: Sale of Colonial Bank business to Bank of New Zealand.

Dec. 20, 1895.—Appointment of Sir P. A. Buckley, K.C.M.G., as a Judge of Supreme Court.

Jan. 10, 1896.—Hon. W. P. Reeves appointed Agent-General in London.

Mar. 26, 1896.—Brunner Mine explosion; sixty-seven deaths.

April 12, 1896.—General census of colony taken for Sunday night.

May 18, 1896.—Death of Sir Patrick Buckley, K.C.M.G.

July 11, 1896.—Appointment of Mr. W. B. Edwards as a Judge of the Supreme Court.

July 19, 1896.—Death of Hon. Robert Pharazyn, M.L.C.

Aug. 2, 1896.—Death of James Edward FitzGerald, C.M.G., Controllor and Auditor-General.

Oct. 16, 1896.—Land for Settlements Act amended: Special provision made for disposal of highly improved lands acquired: preference given to landless people: Boards may select applicants, &c.

Oct. 17, 1896.—Alteration of franchise by abolition of non-residential or property qualification.

Oct. 17, 1896.—Government Valuation of Land Act passed.

Dec. 4, 1896.—General election of members of House of Representatives for the new districts as fixed by the Representation Commissioners on basis of Census, 1896.

Feb. 6, 1897.—Departure of the Earl of Glasgow, G.C.M.G.

Feb. 8, 1897.—Sir James Prendergast Administrator of Government.

June 22, 1897.—Diamond Jubilee of reign of Her Majesty Queen Victoria.

Hon. R. J. Seddon, Premier of New Zealand, called to Privy Council, on occasion of his visit to England with contingent New Zealand Forces.

July 29, 1897.—Wreck of s.s. “Tasmania” at Mahia Peninsula; ten lives lost.

Aug. 10, 1897.—The Earl of Ranfurly assumed office as Governor.

Dec. 22, 1897.—Act to establish at Wellington the Victoria College, in connection with the New Zealand University.

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STATISTICAL SUMMARY OF THE COLONY OF NEW ZEALAND FOR THE YEARS 1840 TO 1852 (INCLUSIVE).

Year.	Population of European Descent (excluding the Military and their Families.)*	Trade.		Revenue and Expenditure.						
		Imports.	Exports.	Revenue from Customs.	Revenue from Land Sales and Crown Lands.	Revenue from Post Office, Fees, Fines, Licences, and other incidental Sources.	Total Revenue from Previous Sources.	Parliamentary Grant, or Receipts in aid of Revenue.	Appropriations from the Commissariat Chest for Military and Naval Expenditure.†	Total Expenditure.
	Persons.	£	£	£	£	£	£	£	£	£
1840	2,050	..	..	926	..	..	926	..	..	926
1841	5,000	85,062	10,836	6,407	28,540	2,443	37,399	43,347	804	81,541
1842	10,992	166,783	18,670	18,568	11,723	2,298	32,589	17,494	1,426	51,509
1843	11,848	191,207	53,945	16,241	1,613	3,544	21,398	9,562	8,093	39,053
1844	12,447	111,619	49,647	11,699	405	2,445	13,949	30,815‡	9,782	54,546
1845	12,774	116,980	76,911	8,899	155	3,845	12,899	..	200,000	212,899
1846	13,274	155,478	82,650	21,319	615	4,711	26,645	35,673‡	190,000	252,318
1847	14,477	202,355	45,485	36,472	835	5,958	43,265	37,752	153,038	234,055
1848	17,166	233,844	44,215	38,366	3,337	5,779	47,482	36,000	155,653	239,135
1849	19,543	254,679	133,662	41,931	3,600	4,877	50,408	20,000	151,455	221,863
1850	22,108	..	..	43,612	8,559	7,127	52,298	41,730	131,100	232,128
1851	26,707	..	..	49,208	12,261	5,580	67,049	20,000	110,600	197,649
1852	27,633	..	..	50,527	14,281	10,956	75,764	10,000	91,600	177,364

* The Maori population was estimated at 56,400 persons in the year 1853.
debentures at different issues.

† The data are drawn from several official sources, and the information is only approximate.

‡ Raised by

The following are particulars respecting the European population, their cultivations, and live stock for the year 1851:—

Religious Denominations.—Church of England, 14,179 persons; Presbyterians, 4,124; Wesleyans, 2,529; Primitive Methodists, 226; Independents, 333; Baptists, 400; Unitarians, 74; Lutherans, 186; Quakers, 8; Protestants not specifically defined, 614; Roman Catholics, 1,473; Jews, 65; refused to state, 496.

Education.—Could not read, 7,818 persons; read only, 4,353; read and write, 14,539.

Land in Cultivation.—Acres—in wheat, 5,514; barley, 1,329; 12,234; maize, 259; potatoes, 2,256; grass, 15,589; gardens or orchard, 1,188; other crops, 679; total under crop, 29,140. Acres tenced, 40,625.

Live Stock.—Horses, 2,890; mules and asses, 60; cattle, 34,781; sheep, 233,043; goats, 12,121; pigs, 16,214.

STATISTICAL SUMMARY OF THE COLONY OF NEW ZEALAND FROM 1853 TO 1897 INCLUSIVE.

(For Summary, Years 1941 to 1949, see separate sheet.)

[illegible][illegible][illegible]

* First (Blue Springs) Pond was first opened in 1951. † Incidence of wounds and abrasions among complaints for years prior to 1980 are known only as percent. ‡ Approximate. § No indication as to how many were in December. May, a 20% sighting according to the Wildlife Service, mostly of muskrat by Government. ¶ 10% infestation of muskrat and carpenter bees and a few snakes at 10%.

SUMMARY OF THE RESULTS OF THE CENSUS OF 12th APRIL, 1890.

[illegible][illegible]



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